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ABSTRACT

Over the past four decades the yearly acceptance rate to U.S. medical schools has remained fairly constant at about 50 percent. Each year, substantial numbers of persons cannot continue formal training toward their occupational goals. In a sense, these individuals represent certain intellectual and financial losses to society in general, and to the health and medical care system in particular. The purposes of the current study include: identification of certain background, demographic, and personality characteristics of this group; description of circumstances surrounding nonacceptance, including attitudes toward rejection and resultant effects on occupational values; examination of the manner in which new academic and occupational choices are made; and consideration of this group as a potential health manpower resource. This study should assist premedical and other undergraduate advisors by enabling them to offer more relevant and useful alternative career suggestions to unaccepted applicants. In addition, it may also allow legislators, health planners, and researchers in medical education, to assess the costs arising from medical school rejection, and to estimate the kinds and amounts of training and support necessary to encourage these persons to enter other health-related areas. (Author)

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THE EVALUATION OF UNSUCCESSFUL APPLICANTS TO MEDICAL SCHOOLS AS A HEALTH MANPOWER RESOURCE

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Dr. Marilynn E. Katatsky participated, in the capacity of doctoral student, in many phases of the study. Her doctoral dissertation, based entirely upon the study data, appears as Appendix II in this report.

Over the past four decades the yearly acceptance ratio to U.S. medical schools has remained fairly constant at about 50 percent (1). In 1966 (the year on which the present study is based), this meant that 18,250 individuals applied for admission, and only 9,123 were accepted (2). Subsequently, the acceptance rate fell to 43 percent in 1969, and rose to only 46 percent in 1970. Thus, each year, substantial numbers of persons cannot continue formal training toward their occupational goals, and most must then undergo another career decision process. In a sense similar to the "dropouts" studied by Johnson and Hutchins (3), these individuals represent certain intellectual and financial losses to society in general, and to the health and medical care system in particular.

To date, there have been no systematic data collected concerning the career paths taken by unsuccessful applicants to medical schools. The purposes of the current study include: identification of certain background, demographic, and personality characteristics of this group; description of circumstances surrounding non-

acceptance, including attitudes toward rejection and resultant effects on occupational values; examination of the manner in which new academic and occupational choices are made; and consideration of this group as a potential health manpower resource. Hopefully, this study should assist premedical and other undergraduate advisors by enabling them to offer more relevant and useful alternative career suggestions to unaccepted applicants. In addition, it may also allow legislators, health planners, and researchers in medical education to assess the costs arising from medical school rejection, and to estimate the kinds and amounts of training and support necessary to encourage these persons to enter other health-related areas.

Review of the Literature

Despite the magnitude and potential of the group, a review of the literature yields few studies dealing specifically with unsuccessful applicants to medical schools.

Stephenson (4) looked at applicants rejected by a single medical school, and it is therefore not surprising that a large percentage of these individuals had applied

to and been accepted by other medical schools. Stephenson did not explore, in any detail, attitudinal and situational factors involved in making other career choices; rather, his primary consideration was "crystallization" of the applicant's self-concept as a physician (5) as a predictor of entrance to medical school. However, he did find that a large percentage of rejected applicants entered careers falling within his rather broad category of "medically-related" occupations.

Hutchins and Morris (6) compared a group of <u>high ability</u> rejectees (only those scoring 600 or more on the Verbal and Quantitative portions of the Medical College Admission Test) with others who were accepted but failed to matriculate. By the time the researchers had gathered their data, one-third of the high ability rejected applicants had gained admission to medical schools; of the remainder, only an additional 9.5 percent were studying for or engaged in other science fields. The research did not measure attitudes related to medical school rejection or to the process by which new careers selected.

Although entitled "A Preliminary Study of Unaccepted Applicants," research by Green (7) actually focused on

evaluation of medical school admissions procedures. Each member of the Committee on Research of the Group for Student Affairs of the Association of American Medical Colleges (AAMC) reviewed a total of 42 applicants rejected by 6 medical schools on the basis of different personal and/or academic qualifications. Green concluded that these students did not apply to a sufficient number of schools and that they displayed unrealistic patterns of application. Perhaps most important was the committee's consensus that well-qualified students were not being missed by prevailling admissions criteria and practices.

Opposite conclusions are offered in a nonempirical analysis by Goldhaber (8), who also examined admissions procedures rather that characteristics of rejectees. Excluding inadequate dispersal and inappropriate application patterns, Goldhaber suggests a combination of seven ideological, demographic, and social factors (e.g., the baby boom, growth of paraprofessionals, recruitment of more members of minority groups) to account for what he feels is a higher rejection rate of increasingly more-qualified applicants.

Finally, recent research in England by Johnson (9-10)

compared medical students and unsuccessful applicants along various academic and sociodemographic dimensions. While many social and cultural differences preclude direct comparisons of these data with results of studies conducted in the United States, several findings are both interesting and relevant to the present investigation. Johnson reported that females were substantially more likely than males to be discouraged from applying to medical school, and to be rejected if they did apply. Moreover, this pattern existed despite the fact that, on the whole, the women were found to be higher academic achievers than the men, and were at least as well qualified on other dimensions. Johnson also found that: (a) there were no systematic social class differences between entrants and rejectees for either sex; (b) rejectees were more likely to come from state-supported rather than from private schools; and (c) rejectees were significantly less likely to have "family connections in medicine" than were current medical students (e.g., 6 percent of the unsuccessful applicants had medical fathers, as compared with 21 percent of the medical students).

In the absence of extensive research dealing directly with unsuccessful applicants, it may be useful to make

inferences from studies of premedical students. Although they may be deemed "failures" by the criterion of medical school acceptance, rejectees, like the larger pool of medical school aspirants of which they from a subset, constitute a group with important shared academic and social characteristics.

Ability -- Thirty-seven percent of entering high school students do not graduate, while over fifty percent of those who graduate do not go on to college (11-12). Further, only about sixty percent of those entering college graduate (13), and most medical school rejectees ultimately receive an undergraduate degree. Moreover, several large studies of college students planning careers in medicine suggest that these individuals are likely to be high on various indicators of socioeconomic status (14-17), as well as on academic performance (15, 17).

Training -- These unsuccessful applicants aspired to a highly specialized, prestigeous profession, and they prepared for the future career by making various investments or "side-bets" (18) such as concentrating on the hard sciences and taking certain prerequisite college courses. For example, in 1966, approximately

47 percent of the applicants took an undergraduate major in the biological sciences, 18 percent in the physical sciences, chemistry, and mathematics, and 18 percent majored in "premedical" courses (2). Given the restrictive acceptance rates on the probable level of scholarship and training of most applicants, it is important to remember Dube et al.'s (1) observation that United States medical schools cannot accommodate all well-prepared applicants (even though the number of places in existing U.S. medical schools has increased by more than one-third in the four years since 1968). In fact, both MCAT scores and gradepoint averages of entering medical students have risen steadily in the past few years. In 1970, 19.7 percent of medical entrants had an "A" average, up from 12.7 percent in 1965 (3).

Potential commitment to the health field -- Rejectees are individuals who, at least at one point in time, indicated that they wished to pursue a professional career in health, and tend to be high on "people-oriented" occupational values (14,15,19). In this respect, rejectees maintain values similar to those of successful medical school applicants, and of undergraduates in

general (20).

Without data, one can only speculate on whether or not this inclination persists or whether other value clusters, such as extrinsic reward orientation or intrinsic self-expression, tend to predominate later on. Substituting the term "unsuccessful applicant" for "dropout," and "rejection" for "withdrawal," the following comment by Johnson and Hutchins is most relevant:

> Other reasons for concern are the high financial costs and the thwarted ambition of the dropouts themselves. Even though the dropout may cease to be a matter of direct concern to the medical community, the effects of failure in one's chosen field can be far reaching for the individual who experiences it. Frustration, loss of positive self-concept, and bitterness, all potential concomitants of withdrawal from medical school, are accentuated by the long and intensive preprofessional training and by the singular nature of the goal. (3)

Method

In order to study career patterns and expectations, it seemed necessary to permit a sufficient number of years to intervene between rejection by the medical school and the research survey, such that any military service might be completed and occupational choices still

be made. However, the more distant the year of rejection, the lower the possibility of reaching the respondents, and the greater the probability that the rejectee is irrevocably committed to his present occupation. The investigators felt that sampling applicants to the 1966-1967 entering class represented the best compromise; it was assumed that most of these individuals took their Medical College Admission Tests (MCAT) in May and October of 1965.

Through the interest and generous cooperation of the Association of American Medical Colleges, the researchers obtained a listing of persons completing the MCAT in 1965, as well as a list of individuals matriculating in the 1966-67 freshman medical school class. Removing the names on the latter list from those on the former resulted in a reasonably accurate sampling frame of unsuccessful applicants, from which 164 men and 163 women were selected by stratified (on sex and geographic region) random procedures.

In the spring of 1971, postcards were mailed to the 1965 addresses of the prospective respondents informing them of the study and its purposes, and requesting their assistance in completing the question-

naire that would follow. This mailing was employed both to enhace the likelihood of respondent cooperation, and as relatively inexpensive device to obtain change-of-address information from the post office. This technique resulted in the return of 105 postcards representing situations where the individual no longer resided at the 1965 address, and no forwarding address was available.

Self-administered questionnaires (with postage-paid return envelopes) were then mailed to the remaining 222 subjects for whom our addresses were accurate. Followup postcards were sent two weeks later to those from whom replies had not been received. One hundred fifty-two responded, a response rate of 68.5 percent. Unfortunately, review of the questionnaires revealed that 27 persons had never applied to medical school even though they had taken the MCAT. Moreover, an additional 27 respondents had in fact been accepted to a U.S. medical school in 1966, representing a possible computer error in the list-subtraction technique mentioned earlier. Both groups were dropped from the study, leaving 98 questionnaires deemed

useable for analysis.

Data from our AAMC computer listings permitted comparisons between the 98 respondents studied and the 70 nonrespondents. These groups were found not to differ significantly either by age and sex distributions or by whether or not they had taken the MCAT before. The remaining information, which relates to MCAT performance, is presented in Table 1 (which

(Table 1 about here)

also includes mean MCAT scores for all unaccepted applicants in 1966-67). Respondents differed significantly from nonrespondents only for the "Science" mean score, and it is therefore concluded that the study data are relatively unaffected by possible response bias. A similar comparison of respondents' mean scores with those of all unaccepted applicants suggests that the former group appears to be a fairly representative sample of the latter.

TABLE 1

Comparisons Among Mean MCAT Scores for Respondents, Nonrespondents, and All Unaccepted Applicants to 1966-67 Class

MCAT Section	Respondents	Nonrespondents	Difference Significant*	All Unaccepted Applicants+
Verbal Ability	493	491	No	488
Quantitative Ability	490	503	No	510
General Information	523	519	No	516
Science	447	481	Yes	478
Combined Sections	488	499	No	498

* Difference between respondent and non respondent mean scores statistically significant at $p < .05$.

+ Data from Mattson, Johnson and Sedlacek (21); they include 250 individuals who withdrew before action was taken on any of their applications.

A 11

Results

125/1* The very low number of Blacks in this study makes meaningful comparisons by race impossible. The small number (four) is undoubtedly due to the fact that 1965 was the year from which the study sample was drawn. Although the percentage of Blacks entering medical school is still small (6 percent in 1971 entered the freshman class), this is a three-fold increase from 1968 (23). Moreover, present recruitment of students from minority groups continues at a relatively high rate, and is one reason Goldhaber offers for the concomitant increase in the rejection rate of "previously borderline nonminority males" (8).

1/2 Of those rejectees taking the MCAT more than once, a much higher percentage were male than female; similarly, more than twice as many males as females took the MCAT two or more times. Females dropped out of the medical school application procedure earlier than did males.

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*The number preceding the slash identifies the relevant question in the study questionnaire; the number(s) following the slash refer to the page number(s) of the related table(s) in Appendix I.
NOTE: In the tables, frequencies are recorded in blue, while percentages (run both horizontally and vertically) appear in red.

3/3 The present investigators assumed that the study population was applying for the 1966-67 medical school year, and thus the sample would take the MCAT mostly in May and October of 1965. Actually almost one-fourth of the sample was found to have applied to medical school before 1966, presumably taking the MCAT in the same year they applied. A larger percentage of males applied earlier than did females, and a larger percentage of the early applicants were male than female. These figures closely parallel those derived from Q. 58 (year bachelor's degree was received), with 1966 female graduates waiting longer after graduation before applying to medical school than did 1966 male graduates.

3/4-6 U.S. medical schools were overwhelmingly chosen over foreign schools for the first round of applications by both male and female rejectees. While the percentages applying to medical schools outside the U.S., at least for males, rise steeply by the time of the second and third applications, the numbers are very small and any conclusions drawn, whether for the total or by sex, must be examined cautiously. Nationally, in 1970-71, nearly 1000 Americans (of nearly 25,000 appli-

cants that year) ultimately went to foreign medical schools. This was a little less than 10 percent of all accepted applicants for that year (8,23).

3/7 The number of applications to medical schools by rejectees is distributed along a bimodal curve, with about a quarter of the sample applying to only one school and a quarter applying to six or more schools. The remaining 50 percent distributes itself, although unequally, along an inverted normal curve among 2 through 5 applications. It remains to be confirmed by other research as to whether this is the normal application pattern for entering aspirants to medical school.

A computerized application process has greatly increased the number of applications premedical students can make at a single time and thus Table 7 is not likely to be representative of current application rates. The average number of applications per individual nationally has risen steadily since 1966 from 4.8 to 7.2 in 1971-72, the last year for which there are published data available (8).

Males tended to make fewer applications (1-3), while

females tended to make many (4 or more). However, a larger proportion of males made 6 or more applications than did females (See Graph #1). Of those applying (a) only once, or (b) 6 or more times, about two-thirds were male. Possibly the males were more confident of being accepted by their first or second choices than were the females, but at the same time a sizable proportion of the males were more pragmatic than the females, hedging their bets by applying to a relatively large number of schools.

Additional procedures are necessary to determine if there are significant differences between males and females in the number of applications made, and whether the observed percentages correlate with undergraduate grade averages, confidence about being accepted, whether granted an interview, etc.

3/8 Not surprisingly (since 62 percent of all rejectees applied the first time for the entering year 1966) the largest percentage of those applying for the second time did so for 1967. Unlike the first application, in which females applied for the later rather than earlier years, on the second application males and females

applied to the 1965 to 1968-or-later classes in approximately equal proportions to each other.

However, while only 39 percent of all unsuccessful applicants made a second application, 53 percent of the males did so, compared to only 20 percent of the females. This fact may perhaps be explained by the males' greater, perhaps more idealistic, determination to go to medical school, by the females' greater, perhaps more pragmatic, "acceptance of their fate," as well as by the fact that of the 17 accepted by medical schools (both in and outside the U.S.) (See 8/14) 77 percent were male and only 23.5 percent female.

3/9 While the distribution of applications made a second time resembles, in its grosser aspects, the distribution for first applications, there are some differences; e.g., a larger percentage of females than males made 6 or more applications (a reverse of the table for first applications). However, the number of females applying a second time is so small as to render meaningful comparison impossible.

3/10 Of those who applied a third time to medical school, the majority did so for several years in the future -- 1970 and 1971. There is a gap of at least three years between the majority application year for the second try (1967) and that of the third try. Perhaps the applicants had made plans to go to graduate school, etc., in the intervening years, or perhaps they had lowered their aspiration level significantly but retained a hope that they may yet be accepted -- in some relatively distant future -- and so applied again but no longer making medical school their sole, or immediate, career option or choice.

This analysis applies to males only, as only one female made even a third application.

3/11 Those males who applied a third time did so with the same patterns as were apparent in their first and second applications -- i.e., equal proportions (and constituting a majority of those making a third application) making either one or 6+ applications, with a much smaller proportion applying between two and five times.

6/12 Almost a third of the rejectees in the study sample were not granted interviews. Additional data are necessary to determine whether this is similar to the percentage of successful medical school applicants who fail to be granted interviews or whether, in fact, the percentage is much larger in this sample than the typical figures for all applicants, or for those accepted.

However, what is striking about his table is the fact that of those granted interviews, 61 percent were male and only 39 percent female, whereas of those denied interviews the proportions of male and female were more nearly equal. This finding is contrary to Johnson's (10). In England more females were found to have been granted one or two interviews. Johnson attributes his finding to the fact that females have superior academic performances, but this is also the case in the U.S.

7/13 Of those rejectees who were granted interviews, half were granted only one interview, and 27 percent were granted only two interviews. Thus only a quarter of these applicants had more than two interviews. Almost twice as many people were granted only one interview (50 percent) than applied to only one medical school

on the first application round (27 percent). The same is true of those granted two interviews (27 percent) and those applying to only two medical schools (13 percent).

Of those granted two or more interviews, a far larger percentage were males than were females; and, by category, females were granted 2, 3 or 4+ interviews far less frequently than were males. Again this is contrary to Johnson's findings (as mentioned above). Although a larger percentage of males are found to have three or more interviews in Johnson's sample than in ours, the percentages by sex even in this category are much closer than those found in the present survey. The question of interviews, and their significance for the two sexes, illustrates the point about non-comparability of these two samples made earlier in this report.

8/14

As has been mentioned, 17 percent of the sample <u>were</u> accepted to medical school, either within or outside the U.S. Of this 17 percent, 77 percent were male and only 23.5 percent were female. Of those not accepted, the proportions of males and females are very close to the proportions of the total sample that are male and

female. However, only 10 percent of the total number of females were accepted whereas 23 percent of the total number of males were accepted. Again, Johnson's study (10) throws some light on this aspect of our data. His findings are, actually, very close to ours. Females made up 54.4 percent of the rejectees in the British sample, but only 21.9 percent of the medical students. This figure is very close to the 23.5 percent who were successful female applicants in the present study.

9/15 About one-fourth of those accepted by medical schools were accepted for 1968. Although the numbers in the cells become too small for fruitful analysis, one possibly significant trend is that 100 percent of the women were accepted for the earliest years (pre-1968) while 65 percent of the males were accepted for 1968 or later.

10,11/16 The figures in this table, as in several previous tables, are too small for analysis. Not surprisingly, over 3/4 of those accepted to medical school subsequently enrolled. Of the 4 who did not, all but one gave "dis-

satisfaction with foreign medical school" as the reason. This table suggests that even for those originally rejected by medical school who still express a strong desire to go, foreign medical schools are not considered an acceptable substitute.

A much larger percentage of those enrolling (77 percent) were males than females (23 percent), but not surprisingly these percentages follow exactly those accepted to medical school.

12/17 These numbers are too small to analyze.

13,15/18-19 These distributions follow fairly closely those of 8/14 and 10/16.

16/20 Nearly 50 percent of the sample had seriously considered becoming a physician by their early teens. Over 80 percent reached this decision by their last year of high school or first year in college. Females tended to decide on a career in medicine earlier than did males.

17/21-38 It is striking that humanitarian ideals, or what Phillips (20) calls "people-oriented values", ("an

opportunity to be helpful to others", an "interest in people", "service to others") emerge as <u>almost</u> the most important reasons these unsuccessful medical school applicants give for why they wanted to become physicians. These data support and amplify the observations of others (14, 18, 20) regarding the similar attitudes of entering medical students. Merton (23) extends these findings with his conclusion that the strongly idealistic sentiments of freshmen, although submerged beneath a pragmatic cynicism during the years of medical school, persist and re-emerge later, upon graduation.

However, the <u>most</u> important <u>single</u> reason these rejectees give for wanting to become physicians is "an interest in science." Ninety-five percent of the sample checked this reason as "fairly to very important." This attitude is interesting in light of the answers to some of the other questions in the questionnaire, and should be kept in mind. While humanitarian reasons were indicated by nearly 41 percent of the sample as most important in the choice of medicine as a career, this people-oriented value-cluster is a category which combines the percentages of three separate answers. "Interest in

science" received nearly 20 percent of the total possible responses, and thus was the largest single response category chosen.

There was very little difference by sex in the degree of importance attached to these particular value responses. However, females indicated that they wanted to be physicians in order to have "a chance to exercise leadership" in significantly larger proportion than did males (although a majority of each sex indicated this was an important reason).

While both "prestige" and "high income" were checked as important by a majority of the sample -- indicating that pragmatic considerations (what Phillips [20] calls "extrinsic reward-oriented values") were not, by any means, absent beneath the idealism -- a chance to have a high income was much less important to the females than to the males, just as was a chance to have a "prestigious" occupation. Less than half the females checked "prestige" and "high income" as "fairly important" while nearly 3/4 of the males did. Perhaps the females are concerned with what might be considered a more elementary or primary step in the professional career gratification

hierarchy ("a chance to exercise leadership") before they can realistically look forward to "prestige" or "a high income" as gratifications.

While intellectual creativity was an important reason for the majority of respondents, the influence of parents, relatives, friends and teachers, and the force of tradition, were relatively unimportant as reasons <u>given</u> for choosing medicine as a career. This may, of course, be explained as rationalization, denial or some other defense mechanism, or they merely may be values or influences so internalized that it is impossible to separate them from more salient reasons. (See 19/40.) The effects of outside influence were even less important to the females than to the males.

18/39 Overall (as has been noted), people-oriented values were selected by both males and females as the most important reasons for wanting to become physicians with an interest in science not far behind. This interest seems to be viewed less as a chance to be original and creative than as an opportunity to be useful while being engaged in applied scientific work for which these students feel predisposed. Thus, intrinsic self-

expression values are modified in a realistic or pragmatic direction.

19/40 While parents' influence was not indicated as even a fairly important reason for wanting to become a physician, 62 percent of the sample reported that both parents encouraged them in their desire to go into medicine. This was true for both sexes, although 15 percent of the females said one or both parents discouraged them from this course while only 4 percent of the males indicated this. This finding provides some support for the current controversy over childhood sex role sociolization patterns concerning "appropriate" careers for males and females; it perhaps helps to explain why, until recently, there have been so few females entering medical school. Also, as will appear later, the fathers of the females made less money and had more financial concerns about the cost of medical school for their daughters than did the fathers of males.

20/41 The above point about differential socialization patterns and career expectation is reinforced by the fact that, while a majority of the sample said their

parents felt it was "fairly to very important" that they become a physician, a larger proportion of males said their parents felt this way than did females.

21/42 A significantly larger percentage of males (82.5 percent) than females (58.6 percent) said their parents had offered to finance their medical education in whole or in part. Over twice as large a proportion of the females had parents who did not offer to finance attendance at medical school. Again, this may reflect attitudes, on the parents' part, of what consitutes an "appropriate" or even "realistic" career for a female, or it may simply be that females applying to medical school have less financially well-off parents than males, either because the women come from a different social class by and large than the men, or because of self-selection (that is, those parents willing to finance their daughters' graduate educations mostly don't have daughters who want to go to medical school). (See Q. 133 and 139) Johnson (9) found that, although there was clear-cut, even striking, "social self-selection" by class (in his study of British rejectees) which operated to prevent applications from aspiring doctors

from low income families," there were no systematic differences between the sexes by class; that is, the social class distribution was not significantly different for males than for females. Whether this conclusion is warranted for the present study remains to be explored as later questions are analyzed.

22/43 While at first glance it would seem salient that a large majority of these respondents don't have relatives who are physicians, in fact it is much more significant that a third of the sample do have relatives in the same profession they want to enter. A 1966 report by the Todd Commission in England (9, p. 261) found that "the selection for medical students is not based on clearly equitable criteria and that a disproportionate weight is given to family connections in medicine." Again this is even more true for males than for females.

As past studies have shown, those entering medicine were more likely to have parents who were doctors than other career entrants were likely to have parents in the same profession or occupation they aspired to. This pattern may well be changing as medical education selection criteria comes under greater scrutiny and an effort

is made to recruit minority group members in a quota or compensatory, preferential fashion. Obviously, members of groups excluded in the past but now being actively recruited, are less likely to have physician fathers. Question 23 shows that, of those rejectees who do have physician relatives, one-third of these are fathers or mothers, although an even larger proportion - more than half - list the relative as "other" than an immediate family member.

Finally, although the present study cannot substantiate the following finding, it is worth noting that Johnson (9) found that more than three times as many current medical students had medical fathers (21 percent) than did unsuccessful applicants (6.3 percent).

24/45 Nearly 40 percent of the males and 23 percent of the females have relatives in other occupations related to medicine and health. Most of these relatives are nurses, though a surprisingly large number are pharmacists. (Q. 25.) One wonders whether any of these pharmacists were unsuccessful applicants to medical school of an earlier generation. A much smaller percentage of these relatives in other health occupations were parents (as

opposed to some other relationship) than were those relatives who were physicians. Depending on the degree of influence which parents really have over their children's final career choices, this may be a significant factor for medical school rejectees in selecting an alternative career path. If parents serve as strong role models for a sample such as this, as well as providing verbal and financial encouragement, there may be a significant relationship between those students who reapply, go to a foreign medical school, turn to another health occupation or graduate school, or go outside the health fields altogether, and the parents' professions.

26/48 Eighty-six percent of the sample said their primary career plan, if they had become physicians, was to provide patient care. A slightly larger proportion of males than females felt they ultimately would have done this. However, a significantly larger proportion of females than males said they had planned on a career in medical research as physicians. This is especially interesting in light of the future careers of both sexes, as later analysis will indicate. A large number of the males went on to obtain graduate degrees in the "hard"

sciences, enabling them, presumably, to do research, possibly in medicine, while very few of the females received such training and thus probably are not engaged in medical research. It should be noted that every one of the respondents had a specific career plan in mind when applying to medical school; not one checked "don't know."

27/49-61 Between 14,000 and 17,000 applicants were denied admission to medical school for the entering year 1971. (Figures differ by different sources.) Of these, the AAMC estimates that 75 percent were academically qualified; that is, their grades and test scores were such that they were judged able to go through medical school successfully. Because there are far fewer slots available than numbers of students applying, more than half of all applicants are rejected and the rejection rate is rising steadily (22,8). While the reasons for rejection are usually structural or systemic rather than personal, this sample of unsuccessful applicants felt that the most important reasons for their rejection were first, grades not good enough (74 percent felt this reason for their rejection was "fairly to very important")

and second, MCAT scores not good enough (66 percent). Perhaps one reason that more applicants didn't assume they'd been rejected because there simply weren't enough places for them was because of the design of the questionnaire -- that is, they would have had to write this reason under "other". Also, their grades and MCAT scores were not as good as those of successful applicants, though this, in light of the statistics, would not necessarily make them poor or unsatisfactory. What was only the beginning of a trend in 1966, (i.e., rising rejection rates occurring concurrently with rising grade-point averages and MCAT scores of applicants, resulting in a greater number of high achievement students failing to gain admission to medical school) is a significant phenomenon and potential problem in 1972.

There is a realization by these students, probably due in part to their answering the questionnaire in 1971, that the system is not a completely unbiased one, since the next most important reason (after grades and MCAT scores) assumed by the sample for their rejection was that they lacked the help of influential people. While both males and females think that this lack of

support and having poor grades accounted largely for their rejection, females were much more likely than males to indicate poor MCAT grades as a problem. Thus, females (71 percent) assumed poor scores in significantly larger proportions than did males (52 percent).

None of the other reasons provided as possible answers were felt to be important by the sample, although females were 6 times as likely to see "discrimination" as a "fairly to very important" reason for their rejection than were males.

28/62

Forty-five percent of the sample, in approximately equal percentages of males and females, felt poor grades were the single most important reason for their rejection by medical schools. Poor MCAT scores and poor social and scholastic contacts were second in importance (about 18 percent each). Males were more likely than females to think their rejection was due to a poor personal impression, and females more likely than males to blame insufficient funds; while the "correctness" of the former explanation for males is unable to be validated, the fact that the females were far more likely to receive no financial help from their parents than

the males may serve as a validity check on the latter explanation. However it should be remembered that only a very small percentage of the total sample felt these last two reasons were highly significant in their subsequent rejection.

29,30/ 63-64

Both at the time of rejection and at the time of the survey the largest proportion (but not a majority) of the sample refused to speculate, or had no opinion, on whether their rejection was fair or unfair. Possibly they do not feel sufficiently qualified, or sure of themselves and the system, to make such a judgment. However, males then and now were more likely to have no opinion than females, and females were more likely to label the decision a "fair" one. In fact, the largest female response category was "fair decision" while the largest male response category was "no opinion." This may be because the females did indeed have lower grades and poorer MCAT scores than the males, or it may be because the females have poorer self-images and less confidence in their abilities as well as less reliable sources of financial support. In light of the final careers in which these applicants ended up it may be

that females employed as medical technicians, etc., believe, in a dissonance-reducing way, that such careers are the highest occupational level their abilities permit them to aspire to or achieve, while males, having gone to graduate school and entered the professions in far greater numbers, are less willing to accept the medical schools' decisions as a reflection on their academic abilities and personal qualifications. Working backwards, in a sense, the rejection decision is then seen as more or less fair by males and females.

31/65 One-third of these applicants had made definite alternative career plans at the time they received notice of their rejection by medical school. Only 18 percent had made no other plans. Again, as with the numbers of applications made, the males showed more foresight than the females; a larger number of males had some, though not definite, alternative career plan and a larger number of females had no other plans.

32/66 Whatever foresight and alternative plans these

applicants might have had, the great majority of males as well as females were "fairly to very upset" by their rejection.

33,34/ 67-73 Three-quarters of the males and nearly half of the females obtained advice from friends and relatives upon their rejection. The largest category of advisors for the males were parents, friends (including M.D.'s), and professors, and the same was true for females (though friends were consulted more than parents by the girls). Males were more likely to seek advice from their siblings than were females, and neither sex obtained advice to any great extent from other relatives or from guidance counselors.

35/74 Both males and females in approximately equal proportions found the advice of their friends, a category including physicians, the most helpful. Males found their professors' advice more helpful than their parents' advice, while for females this evaluation was reversed. Whether this is an important difference would depend on what advice was given by each group to each sex.

36/75 Fifty percent of the advice given was to reapply,

either immediately or after more school elsewhere. Men received the latter advice more frequently than women, although equal percentages of both sexes were advised to go to graduate school instead of medical school. Other advice, such as repeating the MCAT, applying to foreign medical schools, or trying a different career, was given too infrequently to produce large enough percentages to analyze meaningfully. (The category "other" includes such things as general encouragement, take a year off, etc.)

37/76 Forty-eight percent of the males and 32 percent of the females said that at the time of their rejection they thought they were very likely to reapply. Thirty-four percent of the males and 56 percent of the females said they were only somewhat likely, or not likely, to reapply. Thus, as is consistent with tables already presented, males were more likely to persist in their desire to go to medical school. Note that as many as 41 percent of the total sample were sufficiently committed to the idea of attending medical school as to want to definitely reapply. (See Appendix II.)

38/77 This commitment, in fact, seems to be broader than just a desire to attend medical school and become a physician per se, since 46 percent of the sample, males and females in equal percentages, professed to be "very committed" to health occupations in general even if they couldn't enter medical school. Twenty-nine percent of the males and 12 percent of the females professed either very little or no commitment to health occupations and 13 percent of the total definitely rejected the idea of any occupation but medicine. Perhaps surprisingly, a larger proportion of this latter group were female than male. When those not committed to health and those not willing to go outside medicine as a specific discipline are combined into what is perhaps a category which applied to medical school seeking other (extrinsic or intrinsic) rewards and opportunities than those manifestly associated with improving health or curing illness, there still remains quite a large group of rejectees fairly or very committed to health careers in general (65 percent of those interviewed).

39/78 Nearly 90 percent of the applicants were still undergraduates when they applied to medical school. There was no difference in this status between males and females.

40,41/79 While a large proportion of this sample of medical school applicants had the foresight to have made, or considered making, alternative career plans (See Q.31) for only a small percentage (11.5 percent) did this mean <u>simultaneously</u> applying to graduate and medical school. Twice as large a proportion of males took this approach as did females, and of those who did apply to graduate school simultaneously with medical school, three times as many were males. Girls appear to be more decisive about having a specific career as a physician, or <u>only</u> as a physician. While these students had a number of reasons for simultaneously applying, the most frequent one was to ensure a career in <u>some</u> health field. This is consistent with the large degree of commitment expressed by these applicants to the health area in general (Q. 38), and consistent with the people-oriented values they held. Only a small percentage of those so applying showed any doubt about their acceptance to

graduate school; a much larger percentage showed indecision about just what career they wished to pursue.

41/80 However, once these applicants had been rejected by medical school, 81 percent of them then applied to graduate school, in approximately equal proportions by sex.

42/81 While 62 percent of the sample first applied to medical school for 1966, only 39 percent applied to graudate school for that year. About the same percentage applied to graduate school for 1967 or later. More students (30) applied to graduate school for those years than applied a second time (21) or a third time (16) for medical school for those same years. Far more females applied to graduate school subsequent to their first rejection by medical school (29) than applied a second and third time to medical school (9). Although more males (41) applied subsequently to graduate school than applied a second time to medical school (30), it may be concluded that graduate school was more single-mindedly and overwhelmingly the preferred course for females than it was for males. It must be remembered, or course, that the same student can have applied to both medical and graduate school, as

well as applying for more than one entrance year of graduate school. This, of course, somewhat changes what the percentages are and how they are interpreted.

It might be speculated that females accepted their medical school rejection more readily and totally than did males, not because they were less committed to a specific career in medicine than were males (Q. 38), but because they were more pessimistic about their "second" chances for medical school than were males. This would be in accord with other data, such as the smaller number of medical school applications originally made by females, the smaller number of interviews granted them, and the fact that they could count less on parental financial support than could males. It is also consistent with reality; even in 1971-72 women constituted only 13.5 percent of the entering class of all medical schools in the U.S. (8). In England in the same year the present study was carried out, females predominated among the rejected (54 percent) and males among the accepted (77 percent). Using grade levels as his criterion, Johnson firmly argues that one cannot interpret the above observations by concluding that women are less prepared

than men, and as a matter of fact he finds them to be higher achievers than the men (9-10).

While relative to career possibilities females were more sanguine about graduate school offering a realistic alternative rather than re-application to medical school, yet males were more realistic than females about graduate school application procedures. Not only did more males apply than females but four times as many males applied for <u>two</u> entrance years than did females.

43/82 Consistent with the large numbers who said they were fairly to very committed to a health occupation even apart from their desire to specifically go to medical school was the fact that one-third of the sample listed some health field when applying for graduate school. In fact a majority of the males, though only a quarter of the females, did so.

44-45/ 83-84 Of the total number of rejectees who applied to graduate school (simultaneously or subsequently) 80 were accepted and 76 attended. The acceptance rate for these graduate school applicants is very high, in striking contrast to their rejection by medical school. While the

acceptance and attendance rates of those who applied is very good (99 percent and 95 percent respectively) and almost as high for females as males, again the overall male-female breakdown favors the males. Whereas 88 percent of all males applied to graduate school and 88 percent were accepted, only 78 percent of all females applied and only 73 percent were accepted. Further, while 84 percent of the males attended graduate school, only 68 percent of the females did. There probably is a self-selection mechanism at work here in which only those who are likely to be accepted apply, or it may be that the fact they were pre-med majors made them all desirable graduate student candidates. In any case, two observations seem relevant: 1) the striking difference in rejection rates between medical and graduate school applicants suggests, since somewhat of a natural controlled experiment took place, that the explanation of the difference lies in the system rather than in the individuals; 2) whereas all rejectees wanted to go to medical school, large numbers of these students could easily have had their original commitment to medical school sublimated or redirected toward education on a graduate level generally, whether in health or in some totally

different field. That is, there would seem to be an underlying general motivation, intellectual, cultural or the effects of childhood socialization, toward being a professional of any kind, rather than a specific drive toward being a physician and only a physician. This second point seems to be more true for males than for females, but quite relevant for both sexes. It may be here that one sees the emergence of what Phillips and Rosenberg (20,14) call "intrinsic self-expression oriented values."

47/95 While one-third of the sample had applied for a health field when beginning the graduate school application process, a slightly smaller percentage (29 percent) eventually majored in such a field. About the same number of females who applied for a health major ended up with one (perhaps because the term "graduate education" included professional training such as nursing and medical technology as well as general liberal arts graduate programs); however, there was a drop of 25 percent (from 57 percent to 32 percent) between health fields applied for by males and those males actually majoring in a health field in graduate school.

More than a quarter of those attending graduate school listed more than one major field of study. A health field, if the student's choice at all, was far more likely to be his first and only choice than one of several fields majored in.

48/86 While the majority of those attending graduate school entered in 1966, a larger percentage of the males entered from 1965 to 1967 than did females, who tended to enter later. It would seem that, once rejected by medical school, the men got down to the serious business of a career earlier, and more decisively, than did the women.

49/87 Males were most likely to attend graduate school for a total of two years, while females were likely to attend for only one year. However, the majority of males attended for three or more years while only 35 percent of the females attended this long. These differences are related to the different kinds of graduate education undertaken, and this will be elaborated upon below.

50/88 Eighty-two percent of those who attended graduate school obtained the degree they sought, whatever the field studied and the number of years spent in acquiring

it. Twenty-two percent of those who did not receive a degree did not because they transferred to medical school in the midst of their graduate education. Most of these transfers were male.

51/89 The largest proportion of graduate degrees granted were masters, either of arts or science. Equal proportions of these (40 percent) went to males and females. However, of the 11 respondents (17 percent of those receiving graduate degrees) who received two degrees, 8 were males (73 percent) and in every case one of the two degrees was a Ph.D. While a larger proportion of the total number of Ph.D.'s granted went to males, females received proportionately more Ph.D.'s than did males. Males received 100 percent of the D.D.S.'s granted, 86 percent of the other medical degrees (e.g., podiatry, optometry, pharmacy), and 78 percent of the other non medical degrees (e.g., LL.B.'s, MAT's, MBA's). Females received 100 percent of the MT (medical technician) degrees granted.

Thus, while males took degrees in a range of medical and non-medical fields and received no one type of degree more overwhelmingly than another, females who did

not get masters either went overwhelmingly to one extreme, a Ph.D., or the other, an M.T. The M.T. accounts for the large number of females who spent only one year in graduate school.

53/90 The majority of both sexes did not receive their degrees until the early 1970's. Since the majority of respondents received their bachelor's degree in 1966 (Q. 58), this means that whatever the graduate education undertaken, the process took as long or longer than that necessary to train these students as physicians. However, it must be remembered that, in small part, this graduate training was extended by the fact that the table includes second graduate degrees acquired as well.

54/91 Not untypically, the majority of the applicants took four years to complete their undergraduate training, although more females did it in three years than did males, and more males took more than four years than did females.

55/92 All but 2 males received an undergraduate degree.

See table for explanations of the two student's behavior.

57/93 Fifty-four percent of the undergraduate degrees received were BA's as opposed to BS's. Proportionately more males got BA's and more females BS's.

58/94 The majority of the sample of rejectees received their bachelor's degree in 1966, the same year they took the MCAT's and applied to medical school. A larger percentage of men than women got their BA earlier than 1966, but all but one of the eight students who got BA's in 1964 or earlier were male. Three males received their BA's in the 1950's and were therefore at least in their thirties at the time of this survey.

59/95 Twenty-eight percent of the males and 59 percent of the females took courses not applicable to a graduate degree upon completion of their bachelor's.

60/96 The largest proportion of these courses were in the hard sciences and approximately equal percentages of males and females took such courses. For males the next largest course work area preferred was business, while females took no courses in business. However, a

large percentage of females took courses in the humanities and, between education and humanities, almost as large a proportion of females took courses in these areas as they did in the hard sciences. Obviously, teaching, and the liberal arts, offered more desirable -- and perhaps more feasible -- possibilities as potential alternative careers for women than did business. Interestingly, the areas with the fewest number of courses were in the social sciences and in health fields. Perhaps this occurred because courses in health were viewed by these rejectees as being applicable to a graduate degree, and therefore not admissible for inclusion in answering this question. When more than one additonal course was taken (Q. 60) these did tend to be in the social sciences, especially for females, although again hard sciences predominated.

61/98 While the most frequent reason given for taking such additional courses was interest in the particular area, it would seem that since a large proportion of such courses were in the hard sciences and these students had, presumably, been premeds, they might well have had

the idea that they would be potentially helpful for future academic plans or possible careers. Indeed, nearly 30 percent of the sample said they took such courses in order to help their chances of training for an alternative career.

Three times as many males as females took additional courses with the specific intention of reapplying to medical school. This is consistent with table 37/76 in which 48 percent of the males, but only 32 percent of the females, said that, at the time of their rejection, they thought they were very likely to reapply. Males either thought their chances for future acceptance by medical school were better than did the females, or they were more persistent in the face of rejection.

62/99 While nearly three fourths of the sample had only one college major as undergraduates, females were more likely to have two majors than were males, either because they switched fields, or because they had a double major.

63/100 As expected the great majority of those with only one major were either premeds with a biology major, or in some other "hard" science field. A larger proportion

of males majored in the humanities than in the hard sciences (all persons majoring in the humanities were male), and two-thirds of those majoring in the hard sciences (exclusive of biology pre-med) were female.

63/101-102 When these students had more than one college major the first one, again, was more likely to be biology, or other hard science, just as it was for those who had only one major. The only difference between these students and those with only one major was that a much larger proportion of the females majored in health fields, either as a double major or before they switched (usually to the humanities). For males, the second major was likely to be humanities also, or the social sciences, and the attrition, for both sexes, was from the "hard" sciences and premed. It is difficult to interpret the importance of these changes in undergraduate majors; they may indicate a growing awareness by the rejectee that the future might not lie along a straight medical career path, or it may be that, as they advanced toward their senior year, these students felt a desire to broaden their intellectual scope by adding additional courses in the social sciences and

humanities.

64/103-109 It would seem that the second explanation (in Q. 63 above), a broadened intellectual scope, was the most important factor influencing these students' final choice of undergraduate major. Ninety-one percent checked an "intellectual interest in that area" as fairly to very important reason in their final choice of major, although two other reasons, "ability to do well" and helpful with "future career plans", also were very important to at least 80 percent of the sample. None of the other reasons provided as possible factors affecting selection of the final major field were deemed very important (such as ability to get along with the faculty, advice from advisor or parents, or friends taking it). Thus there are several quite different reasons for the final selection of a major. Broadly they can be characterized as idealistic and realistic. The shift away from premed and health fields for the females could be indicative of a shift in future career plans, a change in intellectual perspective, or merely a realization of academic difficulties. However, the fact that the shift was to the "hard"

sciences as well as to the humanities, and that females ranked "intellectual interest" before any other reason, would lead one to favor the first two reasons over the last.

65/110 Males gave "future career plans" as the most important reasons (and a larger proportion of males gave this reason than did females) for their final selection of a college major. While biology-and-premed was the major field for most of them, less than half the sample acknowledged that they selected their major on the basis of future career plans; almost as many of the respondents said the most important reason for their final choice was an intellectual interest in that area. If this is really the case, it might be expected that the most satisfactory alternative for these students, once they had been rejected by medical school, would be the "hard" sciences, since there they could combine their interests with their years of training and preparation.

66,67/ 111-112 While 60 percent of this sample had a grade average of B, with most of the rest having a C average, almost 50 percent of the respondents said their grade average

had improved during their years as an undergraduate. While only a very small percentage had an A- to A average, it is also true that only a small percentage saw a decrease in their average as undergraduates. Females as a whole had higher grade averages than males (but were more likely to see a decrease in their averages during the undergraduate years); yet, females were less likely to think their rejection by medical school was primarily due to poor grades, though both sexes thought poor grades was a "fairly to very important" reason for their rejection. (See Q. 27A and 28.)

68A/113-116 Among the four undergraduate areas (arts, humanities, hard and social sciences) in which these students could have taken courses, the arts was the only area in which a substantial proportion of the respondents took no courses; even so, a majority of the sample did take such courses. More females took courses in the arts than did males. These students took courses in all three of the other areas, though whether they took few or many courses is not indicated.

68B/117-120 A little less than a majority of the respondents

say that they would now take courses in the arts, humanities and social sciences, if such courses were made available. A smaller percentage said they would now take courses in the hard sciences. But a majority of both males and females indicate that they would take no more courses in any of these areas. The one exception is that a majority of the females indicate that, if made available, they would now take more courses in the arts. Among the males the largest percentage (though not a majority) of those who say they would take more courses now would do so in the social sciences.

68C/121-124 Except for females in the "hard" sciences, a majority of males or females felt they did not have a "knack" for course work in any one of these four areas. Females felt they had the least ability in the arts, as did males. There was no real difference between males and females in self-assessed ability, although proportionately more males felt they had a knack for the arts and humanities than did females, and more females proportionately indicated a knack for the "hard" and social sciences than did males. Perhaps this

fact helps explain both why more of these females were encouraged to go into the hard sciences (68E, below) and also why more females than males planned to do medical research once they had their M.D. degree (26/48).

68D/125-128 In none of these areas did the majority of rejectees say they found rough-going academically. Of the four, the largest percentage who indicated having a rough time did so with respect to the "hard" sciences (32 percent). Both males and females found the arts least rough, the social sciences next, and the humanities after that. (Both males and females, it should be remembered, took fewest courses in the arts and felt they had the least "knack" for courses in this area; the humanities, on the other hand, was the least liked of the four fields.) In terms of a latent continuum of both motivation and ability, this sample seems to represent some hypothetical midpoint between apathy and inspiration; they are neither overly enthusiastic and self-confident nor do they feel inadequate or extremely self-derogatory about their intellectual capacities.

68E/129-132 While 46 percent of the females said their teachers had encouraged them to go into the hard sciences, only 28 percent of the males said they had been so encouraged. A higher percentage of females than males indicated they were encouraged to enter all the areas (except the arts). However, only a very small percentage of either males or females said they were encouraged to go into the arts, humanities or social sciences. Whether these findings are: a) the result of professors and parents' reflected assessment of these premedical students' abilities and capacities; b) due to acceptance by the students and those advising them of the medical career path they indicate they wish to pursue; or c) merely a by-product of a career guidance system which further reinforces an already strong self-selection process, can provide interesting but unverifiable speculation for the analyst. Johnson (10, p. 267), in his English study, found no significant difference between the encouragement provided by undergraduate professors for those who gained medical school places and those who did not; nor was there any difference in encouragement by sex. However, he did find much greater "positive discouragement amongst

the rejected."

68F/133-136 A majority of the respondents, both male and female , said they liked the "hard" sciences as an area of st dy "a lot." While 75 percent of the males and 85 percent of the females expressed this preference and degree of liking, none of the three other areas appealed to a majority of either sex. Males expressed strong liking for both the social sciences and humanities in about equal proportions (about 41 percent), and females were attracted to both these areas in approximately equal proportions to the males (46 percent). Though the arts was the area which evoked the least amount of such positive affirmation, here too proportionately more females than males expressed strong enthusiasm. Thus, more striking than the fact that the hard sciences were preferred by a majority of the rejectees (and that the arts were again ranked at the bottom) is the fact that females in proportionately larger numbers than males expressed enthusiastic preference for all four areas. Interpretations of this table, therefore, must explain: a) why the hard sciences, an area of study typically associated with males, should be strongly endorsed by

more females than males; and b) why females should be more enthusiastic about all fields than males. Concerning the latter interpretation, it may be that, because girls in high school and college earn better grades than boys, and on the whole are higher achievers at these levels, (a fact supported by Johnson's study also), they receive more academic and psychological rewards, as well as other positive reinforcement. In turn, they express less ambivalence about school and are perhaps more interested and possibly even more highly motivated than the males. More open expression of such feelings, in turn, perpetuates a cycle of positive reinforcement. Possibly as a social remnant of parents' and teachers' approaches to female education as a time when girls are taught to be "well-rounded" and have many, diversified skills and interests, such childhood socialization concepts carry over to undergraduate education as well. Hoever, "a" above cannot be explained in terms of such stereotypic sex role learning patterns as well. Instead, the phenomenon may be overcompensation. Females, precisely because they was well as males are aware of the traditional image of the "unscientific woman", both in reaction to such

an image, and out of a not unrealistic anxiety concerning their strongly desired future medical career and the greater odds against their fulfilling this desire than those for males, may over-compensate by expressing even stronger enthusiasm for the hard sciences than do males. That is, they may lack both the financial wherewithal and the solid societal support for their career intentions to become physicians, and may attempt to compensate by being more highly motivated and enthusiastic students in the very area in which will ultimately be hardest for them to achieve recognition. Other interpretations are, of course, possible, such as self-selection -- these female rejectees may simply be more scientifically oriented than non-premed majors and be quite different not only from other females but from males with whom they attended school.

68G/137-140 Although neither sex noted any great dislike for any of the four areas, there <u>were</u> small differences. Fewest females expressed great disliking for the hard sciences. This area was ranked the same by both sexes. However, proportionately more females said they disliked

the social sciences a lot more than did males; further they disliked it more than they disliked the other two areas. Males expressed greater disliking for the humanities and arts than for the social sciences. Overall, the humanities were most often chosen as least liked, although again this was by a very small percentage of the sample.

68H/140-143 While a majority of the sample reported having thought seriously at one point in their college years of having a future career in the hard sciences, a majority of the females did not express having such thoughts, although they overwhelmingly said they liked the hard sciences a lot, and that they felt they had a knack for course work in this area; also, nearly a majority said their teachers had encouraged them to go into this field professionally. Although they did not find the hard sciences rough-going academically, they were quite definite that they would take no more courses in such fields. What emerges is that the girls may have had, possible by self-selection as premeds, quite a bit of scientific talent -- to the point of being encouraged academically and professionally to use it as

the foundation of a future career -- and yet did not envision themselves (or were not attracted to) the "scientific" side of medicine. Although for females as for males an interest in science was the reason most frequently given as most important in wanting to become physicians, humanitarian idealism also ranked very high and may play a part in explaining why these undergraduate females did not, by and large, seriously consider a career in the hard sciences. While this is in accord with the fact that a larger number of males than females went on to get graduate degrees in the hard sciences, presumably enabling them to do medical research, it must be remembered that a much larger proportion of females than males said they had planned on a career in medical research as physicians. This may explain why nearly two-thirds of those majoring in the "hard" sciences, and not biology or premed (Q. 63), were female. However, it is more difficult to interpret why proportionately fewer females than males thought seriously of making a career in this area. Changes in interest, lower aspiration levels, more realistic assessments of the job market in these areas, might be

some of the possible explanations.

Neither males nor females exhibited a tendency to think seriously of careers in the other three areas to any significant degree.

68I/144-147 Not unexpectedly, more members of both sexes said that one of their closest friends had majored in the "hard" sciences rather than in any of the other three areas. Social sciences was second for the females, humanities for the males, but they were poor seconds. It would seem that, except for the arts, these premed students were somewhat more likely to have friends in all three of the other fields. They were least likely to have a close friend majoring in the arts. (See Q. 113 and 114.)

69,71/148-149 Very small percentages of these rejectees said their studies had been disrupted by either physical or emotional illness as undergraduates. Of those whose studies had been so disrupted, the largest proportion (20 percent) were females, and this was for physical illness. However, only two students had to leave school for more than 4 months for emotional problems,

and only two for physical illness.

73/150 Fifty-one percent of the males in this sample had never served in the military, which is surprising because almost all of them were over 25.

74/151 The largest proportion of those who served did so for two years, though 20 percent of those who had been in the military were in for four or more years.

75/152 Such military service did not affect, by interruption, the studies of 55 percent of the respondents, although the remainder is rather a large proportion to have had their studies disrupted by military service.

76,77/153-154 However, for those whose studies were interrupted as well as for the others there was some compensation. Eighty-three percent of them received special training, possibly as a medic (25 percent) though more likely in some field unrelated to health care.

78,79/155-156 Of those that didn't serve, 79 percent did not expect to serve, largely because of age.

80,81/157-158 While only 8 males said that their graduate studies

had been interrupted by the military draft, 17 males (30 percent) said concern about the draft had affected their graduate plans. In the main, it had accelerated their anxiety, and perhaps their career decision plans and the application process, for they had to be accepted by graduate school in order to avoid the draft. Perhaps this is one reason why more males went, more quickly, into graduate school than did females. However much, though, the draft accelerated the choice of career plans or the application and entrance process, it also delayed or changed it, since 35 percent of those whose graduate education plans were disrupted by the draft failed to start or complete graduate school because of it.

82/159 Consistent with: a) the early interest shown by most of these unsuccessful applicants to medical school; b) the persistence with which a good share of them reapplied upon their rejection; c) the degree of commitment towards medicine they expressed; and d) the degree of unhappiness they felt upon being rejected; is the fact that 57 percent of this sample said they had never seriously considered an occupation other than

medicine before college. Of the remainder, proportionately more males than females had considered another career at that time.

83/160 Of the other occupations considered, the majority were outside the health field (78 percent). Females were more likely to have considered health occupations than were males, but neither did so in significant proportions. When more than one other occupation was considered, health was more likely to be that alternative than when only one other occupation was considered.

84/161 Considering the other attitudes and behaviors displayed by the rejectees as exampled in Q. 82 above, it is interesting that during college the proportion of students seriously considering an occupation other than medicine increased, though not dramatically (43 per cent to 49 percent). It rose about equally for males and females. Thus, during college, almost a majority of this sample were already thinking of an occupation other than in medicine per se.

85/162 While the percentage of those seriously considering other health occupations went up slightly from what it

had been before college (from 22 percent to 29 percent), these careers still did not compete effectively with the serious alternative career pressures presented by occupations outside the health area. However, the percentage seriously considering health occupations during college was much larger for females than males, and rose much more dramatically for females since pre-college speculation than it did for males. Perhaps the women already had some feeling that medicine was not for them, either out of their own inabilities, changes of interest or a realistic pragmatism about the system and their chances within it. Possibly, they merely were more disillusioned earlier about their chances than were males, or perhaps it wasn't cynicism so much as a realistic self-assessment of abilities and potentialities. It may also have been because fewer females were certain of having financial support for medical school from their parents than were males.

86/163 This table and the following four are among the most important of all the tables analyzed, and also, in light of the already apparent trend differentiating males and females, among the most interesting. While during

college only 49 percent of the total sample of unsuccessful medical school candidates even seriously considered an occupation other than medicine, and only 29 percent of these considered a health occupation, almost one-half (46 percent) of those who went to work immediately upon graduation had their first fulltime job in a health field. This increase from those considering health in college to those working in health after college was not evenly distributed among males and females. Seventy-five percent of all rejectees who entered a health occupation were female and two-thirds of all females took a job in health rather than elsewhere, compared to less than one-fourth of the males who opted for a similar career. Moreover, for females, a job in the health field overwhelmingly meant a job as a medical or laboratory technician. Twenty-one out of the 24 females who said their first fulltime job after college was in health were medical technicians (88 per cent), while only 3 males entered this occupation category.

Nearly 30 percent of the rejectees listed no first fulltime job after college, as did the majority of

males. However, not only did the majority of females work as medical technicians upon graduation, but a majority of all females interviewed were medical technicians.

87/164 Moreover, while the number of females working as medical technicians decreased from 21 to 13 in the years after college, still 77 percent of these women had their most recent fulltime occupations in medical technology. While the percentage of males in health occupations rose, only 3 remained medical technicians.

Besides the fact that, as their most recent full-time job, four times as many females as males are employed in medical technology, other interesting results to emerge from these two tables: 1) the total number as well as the proportion of unsuccessful applicants holding a job at the time of the survey had increased since just after graduation; 2) the total number as well as the proportion of those surveyed who held a health job as opposed to another job had decreased (only 37 percent of those listing a most recent job listed a health occupation) since immediately post college; 3) the proportion of males in health careers had increased

in those 4-5 years, but the proportion of females in such jobs had decreased. Nevertheless, while male rejectees seem to have begun to gradually enter health fields other than medicine, a much larger percentage of those currently in such fields were female at the time of the survey.

87/165-167 In between the first job and the most recent job increasingly larger numbers of rejectees went to work. Presumably, since the majority had gone on to get graduate education of some kind, they had completed such training, or dropped out, and were entering the labor market. However, even at the time of the survey, more than 20 percent were not yet working (Table p. 169). What is apparent from these three tables is the drop (from 73 percent of the sample whose first job [Table p. 167] was in a health field to 50 percent whose most recent job was in a health field [Table p. 165]) in the percentage, although not in the absolute number, of those choosing health over some other field. The drop was more precipitous for females than males, although at any one point in time far more females (about 3 times as many) than males were in health.

It would seem that female medical school rejectees went to work upon college graduation in far larger proportions than males, taking lower level, lower paying jobs in hospitals or labs. Since fewer of them had had promises of financial support from their parents for medical school, it is possible that fewer of them also had such support for other kinds of graduate school. While proportionately more females than males got BS's rather than BA's, proportionately more females received Ph.D.'s than males, and equal proportions of males and females got masters degrees; at the same time it must be remembered that a large subsample of these females spent only one year in graduate school, probably getting a medical technology degree. (See 49,51/87-89).

Thus the unsuccessful female applicants to medical school seem to split naturally into two groups: those who obtained a great deal of graduate education of a specific, scientific nature; and those who received very little (if any) advanced training, but instead went immediately to work, mostly in any health job they could get.

The males seem to be a more homogeneous group, a

characteristic perhaps due to self-selection by male premed students, or to structural effects of the educational-occupational system through which both males and females passed, but which affected or treated them differently. There might have been more or less of one kind of male premed student, and several kinds of female premed students -- those more and less committed to medicine. Both sexes may have started out with very much the same goals and dedication, but the females, after encountering more obstacles and tougher expectations (as well as having less tenanciousness and lower aspirations) ended up, through a process of self and system selection, with their humanitarian ideals and desire for a health career fairly intact but necessarily having to lower their occupational sights. However, when it is remembered that degree of commitment toward medicine was equally strong for males and females, as was interest in science and in helping others, it is difficult not to attribute these occupational and graduate school differences to specific adjustments made by the females to the career system and structure, as well as to differences in early and later socialization

norms.

That equal numbers of male and female rejectees were married at the time of the survey, and that these were a majority of the unsuccessful candidates, suggests another aspect of possible explanation. Perhaps, as is often the pattern among young college graduates and married professionals without children, the women took "any" job immediately rather than a "career-oriented" job in order to support the couple while the husband underwent his graduate training.

86/168 This suggestion is partially confirmed by data in this table which show that 2/3 of those who entered graduate school immediately after college were male. More striking is the finding that only 53 percent of the rejectees entered graduate school right after college, although most of them had been prepared to enter medical school immediately upon graduation.

87/169 Five years after college graduation, 30 percent of the males and 7 percent of the females were still in school and had not yet held a fulltime job. Males constituted 85 percent of those who had never had a

paying job. It is evident that males had much more incentive or opportunity or both to pursue an extensive, demanding graduate education than females. The pattern seems to be that males pursue as long a graduate education as is necessary to get the degree they desire, while females, through a combination of self-fulfilling expectations and lack of opportunity, spend less time at the graduate levels of academia and go sooner to work, in order to support the couple (or herself if she is single). One wonders whether the predisposing factor, if not the precipitating one, is reduced opportunity for the female at the graduate level, or lower aspirations and inclination to attend graduate school.

88/170 Whatever the initial reason that males and females chose work over graduate school, or chose their present job over a different one, equal proportions of males and females report they are fairly to very committed to their present careers. And indeed a very high proportion of all those responding to this question (89 percent) reported fair to high commitment. This is interesting in light of the fact that the vast majority of these former premed students was very upset by their

medical school rejection. However, for almost the majority of the sample, the commitment was to a career in health, not to one in medicine (Q. 38) and 37 percent of those working now are in self-described health occupations. Thus this present commitment, as well as the earlier aspirations, were: a) not so much to medicine as to health in general; and b) fairly transferable to some other occupation, as much or more outside the health field as within it.

Probably what is evidenced here is that once having obtained an extensive amount of training (whether they went beyond college or not, they still would be in the minority of a national sample representative of their age group for amount of higher education obtained) highly motivated individuals: a) are very likely to be doing something agreeable and probably consistent with their abilities and their training, if not challenging as well; and b) have had enough time in, and rewards for, what they are doing that they grew to derive satisfaction from the job, if indeed they didn't start out satisfied. The latter attitude shift occurred either because they brought their attitudes in line with their behavior

(i.e., reducing the incongruity between their aspirations and reality) or reduced, by some other method such as redefinition of the situation, whatever dissonance might have originally arisen between their feelings of self-esteem and the life choices they were forced to make and which ultimately led them to their present careers. In any case, whether they were medical technicians or research scientists, and despite the fact that they had all wanted to be physicians originally, the vast majority of those answering this question (and fewer than half the rejectees answered this question--see the first report on response rate for an explanation) reported they were quite committed to what they were presently doing.

89/171-178 : Of the eight (including "other") possible reasons provided for deciding on a career in the area chosen, "abilities consistent with the choice" received the largest proportion of affirmative responses. Eight-one percent of the total number responding to this question said this had been a consideration in deciding to begin their particular career. Seventy-five percent of the respondents said that they were steered into their choice

by the training they received in college. And 51 percent of the sample indicated they'd been helped to make their decision on the basis of personal values. And these three reasons were the only ones which received a majority of the possible responses. Very few (4 percent) said they'd chosen their present career for no specific reason but, rather, had just drifted into it. Otherwise, the other reasons received a good share of the responses, although only "abilities" and "college training" applied to almost everyone. Suggestions of friends, relatives and faculty advisors played only a small part in career choice.

While not a majority, a substantial minority of the respondents said their particular career decision was due to "a chance opportunity". This explanation is not that different from "just drifted into it," yet the latter received practically no vote as an explanation, while the former was endorsed by 45 percent of the total. Perhaps a distinction between these two reasons was made along the lines of Aristotle's final (first) and efficient (material) causes; that is, a chance opportunity (being rejected by medical school, drafted into the Army,

picking a particularly fruitful substitute graduate educational experience) had acted as the original decision-maker by inevitably defining a particular path (or by eliminating others). This, in turn, led ultimately to the specific career now being pursued and thus the present occupation is not seen as merely the random outcome of a decision by default but instead the predictable outcome of a chain begun years earlier by a chance opportunity.

While the percentage of males and females rating the importance of these considerations in choosing their particular career were about equal for "consistent with abilities" and "because of a chance opportunity", proportionately more males than females said they decided on their careers because they were consistent with their training in college or because they were in accord with their personal values. Also, proportionately more females than males said they had been swayed by the suggestion of a relative or friend. While males were less likely than females to attribute their final selection of a college major to "future career plans," (Q. 64) the males' response to Q. 89 would seem to indi-

cate that their college training had coincided more with, or prepared them better for, their present career than females thought <u>their</u> college training had done for them. Also, it would appear that males are more "inner-directed" ("personal values") and females ("suggestion of relative/friend") are more "other-directed." However, the spread between the male and female percentages isn't very wide so any such analysis may well be premature. The only significant difference of interest here is that, of those who said that their training in college was an important consideration in beginning a career in their present field, 63 percent were male and only 38 percent were female. This is in accord with the fact that proportionately more women rejectees obtained jobs at lower prestige and status (and presumably skill) levels than did males and thus their college, graduate and occupational career ladders followed a straight upward course less consistently than did those of the men.

90/179 While a slightly larger percentage of the total number of unsuccessful applicants who said that their abilities being consistent with their choice was a more

important consideration in choosing their present career than was any other factor, the single most important factor in choosing present careers was college training. After ability, personal values and other idiosyncratic reasons were found to be "most important". Consistent with the findings in Q. 89, training in college was of most importance for males, with 27 percent of the males giving this as the most important reason. While college training was important for females (20 percent said it was the most important reason), idiosyncratic ("other") reasons were "most important" to an even larger proportion of females (25 percent).

In light of the responses to Q. 89, chance or "drift" was not considered very important (though it was twice as important for females than males), while advice of others, which had been important for a sizable minority of females, was not considered the most important reason by the great majority of the sample. Only 11 percent of the total gave this as the most important reason they had chosen their present career.

91/180-194 The most interesting thing about the analysis of

these 15 different reasons or characteristics for choosing the present career is that all but two were ranked as fairly to very important by a majority of the respondents. This is, the present career paths of this subsample provide these unsuccessful applicants with an array of different opportunities, giving them a chance to fulfil (or avoid) many expectations and hopes that other young aspirants often have when starting a professional career.

The characteristic most often ranked "fairly to very important" as the reason for choosing the present career was "opportunity to learn new things or improve professional competency" (89 percent). In fact, 97 percent of the males rated this characteristic of their present career or career goal as "fairly to very important" compared to 78 percent of the females. Almost as large a percentage (76 percent) of females ranked "living and working in the world of ideas" as "fairly to very important," although this was not the second most important characteristic (in terms of this ranking scale) for males. Both importance of "becoming a success" and "opportunity to exercise leadership" were found to

be very important by males more often than was "living and working in the world of ideas." Males would seem to be somewhat more concerned with leadership possibilities and success than are the females, and females more concerned with learning and using ideas and developing professional competency than males. However a good majority of both sexes were more likely to rate all these characteristics as "important" than "not important", though becoming a success ranked fairly low among these 15 reasons for females. All the reasons discussed above fall most closely into the category which Phillips and Rosenberg (20,14) call intrinsic self-expression, though "becoming a success" and "improving professional competency" tend to represent extrinsic reward-oriented values as well. Most interesting, however, is that the high loading on "people-oriented" or altruistic-idealistic values seen in Q. 17 about reasons for applying to medical school, is not apparent here in "choice of present career." In fact, such values are virtually absent among the list of most important reasons for the present choice. This finding may be due either to the maturation process over

time, to the difference between medicine as a career and the present occupation.

Other characteristics of the present career choice found fairly to very important by at least 60 percent of the males in the sample were opportunity: for originality; for doing practical work; for helping others; for working with people rather than things; for freedom from supervision; for technical problem-solving; for contributing to science; and for high income. Of these, at least 60 percent of the females endorsed all but the last three. In fact a majority of the males rated everyone of these characteristics but one ("avoiding a high responsibility job which takes too much out of you") as "fairly to very important". A very high proportion of females (91 percent) also found this latter reason not at all important, but significantly, a majority of the women also found not very important: technical problem-solving; contributing to science; a high income; and an opportunity to achieve social status or prestige.

Interestingly, the three reasons combined in Q. 92 (195) under "prestige" (a high income, an opportunity

to achieve social status and prestige, and becoming a success) were not felt to be very important by most of the females, and were certainly not felt to be "fairly to very important" by proportionately as many females as males. However, when asked to check the most important reason for choosing their present career, almost twice as large a percentage of females as males felt these three extrinsic reward-oriented reasons to be the most important ones (however, the absolute numbers involved are quite small).

One of the most interesting tables in Q. 91 is Table p. 190. The spread between the proportion of males and females who thought becoming a success in the present choice of career was very important is large (35 percentage points) and, in fact, is the largest spread between the sexes of any of these occupational choice characteristics. Combined with the fact that the spread is also large for "high income" and "importance of status and prestige", and all three are in the same direction (that is, males think these three characteristics are very important more often than do females), it would tend to confirm the analysis presented for

Q. 17 (pages 21-24 of this report). Prestige and high income were held to be less important by the females than by the males, as reasons they had wanted to become physicians.

What was suggested earlier, that females want different things from a career and perhaps set their career sights (aspirations as well as achieved goals) either at lower levels or to achieve different gratifications than those achieved by males, can be expanded somewhat here. Females have a much more recent history (in anything approaching large numbers) in the "male" professions, and there are still far fewer of them in these than in the more acceptable "female" professions (e.g., teaching, social work, nursing). Thus, when they aspire to enter occupations normally undertaken by males, while they may comprise more of the innovators or "pioneers" of their sex than do males aspiring to the same profession constitute of <u>their</u> sex, they still cannot take for granted either the social approval of their fellow females and/or colleagues or the social sanction to desire as much success, prestige, and high income as is desired by males professionals. Both be-

cause they are newer at this particular career game and because they have been socialized to hold different career aspirations and expectations than do their male counterparts, the fact that they had similar training and career opportunities while in school (if indeed this is the case) is not strong enough to overcome the structural and social barriers they confront even when they are installed in a career. While they say they are as committed to their present career as do the men (Q. 88), they give somewhat different reasons for that commitment, either because: a) having a career in itself provides males and females with different opportunities for self-expression, leadership, creativity, prestige and success; b) because females are seeking different things from their careers than are males; or c) because it isn't yet socially acceptable (and thus perhaps is still largely unconscious) to want the same things from a career that do men. In other words, they either want different things and find them, or they want the same things but deny, to themselves, that this is true. Even after attaining professional status, success, prestige, and high income are not seen by women as (or admitted

to be) important.

Q. 92/195 While the most important single reason these medical school rejectees gave for wanting to become physicians is "an interest in science" (Q. 17), a "chance to contribute to science" is the least important reason selected for choosing their present careers. Only 5.5 percent of the respondents gave this as the most important reason for their present choice. While in the earlier question altruistic-humanitarian ideals (an opportunity to be helpful to others and an opportunity to work with people, not things) were checked as most important by almost as many people as checked an interest in science, it is still a powerful motivator, but not as important to as many people in their present careers as is intellectual creativity (an opportunity to be original, work in the world of ideas and to learn new things and become professionally competent). Thus, as they became older, and as aspirations merge with behavior, and as they no longer define themselves or are defined by others as medical school rejectees, these young people become altruistic in decreasing proportions and

egocentric in increasing proportions. This is not to say that large percentages of them aren't people or other-directed, or even that a majority of them are motivated largely by selfish or self-fulfilling reasons, but only that reality (in the form of present career opportunities and increasing family and professional considerations, pressures and sanctions) has begun to play a weightier role in molding evaluations of occupational opportunities than it did in forming earlier career aspirations.

While "prestige" and "leadership opportunities" were considered "fairly to very important" by large majorities of the males and by a smaller (but nonetheless majority) proportion of the total sample of respondents, these two categories of reasons for choosing the present career are, not nearly as frequently cited as the most important reasons as are "altruistic ideals" or "intellectual creativity". In earlier tables, prestige and success factors were not considered very important by nearly as large a proportion of females as they were by males; nonetheless, in this table, they are considered most important by proportionately more

females than males. An opportunity for leadership, on the other hand, was checked by a quarter of the males in the sample as most important, not too far off, percentage wise, from humanitarian and intellectual fulfillment. Females, however, ranked "an opportunity to exercise leadership" at the very bottom of the list of most important reasons for choosing their present career, along with a "chance to contribute to scientific knowledge". Apparently females achieve prestige differently than males or value it more highly or find it more often, while males rate leadership, with or without prestige and social status, as important and find it more often or value it more highly than do females. It may just be a matter of different paths to the same goals or, conversely, different appraisals of the same paths -- that is, one sex's "prestige" may be the other's "leadership."

93/196-210 Just as with the present career, any new career these unsuccessful medical school applicants would embark upon is seen (through what is perhaps an idealistic overlay) as having to provide multiple opportunities. As with the present career, the characteristic ranked

most frequently as "fairly to very important" in choosing a new career is an "opportunity to learn new things or improve professional competency". While the overall proportion of the total demanding that any new career provide such an opportunity as this (94 percent) remains quite close to the overall proportion given in Q. 91 (89 percent), the proportion of females rating this characteristic as very important has increased nearly 20 percentage points from Q. 91 to Q. 93. Perhaps more females, starting at lower, less professional levels (mostly as medical technicians) feel a greater need to utilize their college training and past experience to more into a professional career or in a new direction, while the men, having completed a more thorough graduate education, can afford to look for other things from a career as well.

For both sexes "an opportunity to be helpful to others" has increased in importance from the reality of the present career to the ideal of a new career. Perhaps, given free rein to speculate upon a new job (free tuition and living allowance), these unsuccessful applicants find it easier or even more natural to give their ideals or humanitarian values more expression than they could have afforded when they had to take whatever job a chance opportunity thrust upon them.

Or perhaps, instead, their imaginations propel them in a direction which brings their ideal job in line with their humanitarian feelings. Of course it may be that this is one of the things many of them are vaguely dissatisfied with (vaguely, since a majority of the sample reports that they do presently find opportunity to be helpful to others) in their present jobs, and thus their imaginations are given more impetus to desire expression of such altruistic sentiments in any future job they may obtain.

Living and working in the world of ideas, and an opportunity to exercise leadership are both very frequently cited as of importance in choosing a new career, as they were felt to be in choosing the present career. While "leadership opportunities" declined in importance for some of the male rejectees, it rose in importance for 15 percent of the females (from Q.-91-to Q. 93). Again it may be that present experience is somewhat disillusioning to the women -- that is, their training may have prepared them to be leaders but the job structure and system forced them to take non-leadership positions which they now feel are inconsistent with

their training and aptitudes -- and they now feel more confident of their abilities and more able to handle leadership positions. Or it may be that when females think about possible career potentialities and opportunities, they permit themselves greater latitude in their desire for supervisory responsibility than do men, who already have a greater range of responsibility, or than they (females) permit themselves, or are permitted, to have in reality. Perhaps because leadership positions for women is a more openly debated issue at this time, women see these opportunities as more desirable than, for example, opportunities for altruism.

While "becoming a success" is rated "fairly to very important" by as large a proportion of males in any future career as it is in the present career, it has become somewhat more important for females, though not as important for nearly as large a proportion of them as for the males.

In conjunction with other intellectual opportunities these rejectees rate as important in any new job they would take (e.g., "opportunity to learn new things," "opportunity to live and work in the world of ideas"),

the opportunity to be original and creative has remained at the same high level for the males, and increased 15 percentage points for the females. Thus it is understandable why in Q. 94 (p. 211) "intellectual creativity," which is the characteristic cited as most important by the largest percentage of rejectees in choosing their present job, is not only in the same rank order position in choosing a new career, but also, has been endorsed as the most important category of reasons by 50 percent of the total sample -- a 15 percent increase from Q. 91 to Q. 93.

Perhaps because many of the females presently work as medical or laboratory technicians, there is an increase in the percentage of females who emphasize they would like a career in which they work with people rather than things if they begin a new job. For males, the percentage citing this characteristic as very important drops off slightly in thoughts about a new career, possibly because they presently have more opportunity to do so.

An "interest in people" does not override the importance of doing practical work (since the percentages

are equal for both sexes), nor does such a people-oriented bent exclude an interest in, or a focus on, doing precise, technical work, since a majority of the males and a sizeable minority of the females would label the latter opportunity in any new career as important as they had considered it to be in their present employment. While more females think it is very important to work with people and not things (if they could switch careers), and fewer of them think doing precise, technical work is as important as working with people, they (as do the males) overwhelmingly endorse doing practical work while contributing to science as a characteristic they would seek in any new career.

While a future job with prestige is rated as very important by a larger proportion of males than thought prestige to be a very important consideration in their present job, prestige in a future career even <u>less</u> important for females than is their present prestige concern -- and in absolute terms, prestige isn't very important for females at present. In fact, the percentage difference between males and females on this

characteristic of a future job (p. 204) is the widest (35 points) of any spread for the opportunities a new career offers. "An opportunity for achieving prestige" has replaced "an opportunity for achieving success" as the most significant characteristic separating males from females in their speculation upon a new career as it differs from their present one. Females feel it is more important to be a success in the future, and rate it as much more important than prestige. Males also feel that success is more important than prestige -- although they increasingly indicate that prestige is important -- and they report "prestige" to be "very important" with greater frequency than do females when considering both present and future positions.

While much of the analysis for Q. 91 applies here, including the possibility that males and females define these terms (prestige and success) differently because of different socialization and occupational experiences, it must also be remembered that males and females have different amounts of access to success and prestige; that is, the society largely defines and allocates these honors to men through their occupational position

and performance while for women they are, while perhaps more difficult to achieve occupationally, nonetheless available through a wider range of sources -- their family and husband's position and performance, for example, as well as through their own merits and activities. Possibly, having more diverse means of attaining this status, as well as having undergone different socialization relevant to the appropriateness of seeking prestige solely through one's occupation, females may be less inclined to seek a career for its prestige opportunities.

Sixty-two percent of the female unsuccessful applicants felt a high income was fairly to very important in choosing a new career; this was more than a twenty percent increase among those citing it as a very important factor in choice of present career. Almost as large a proportion of females as males cited this opportunity as important, and twice as many females cited income as important than cited prestige as important in a new career. While it may at first be necessary only to get onto the career ladder at any point so as to be in a position to work one's way up,

it seems to become increasingly important later on just where on that ladder one's income is located.

94/211 As mentioned in the analysis of Q. 93, intellectual creativity is considered the most important category of reasons for choosing a new career, as it was considered most important in choosing the present career. It is considered most important by 50 percent of these rejectees and the male-female percentages are fairly close. The ranking of the five categories of reasons is exactly the same as it was in Q. 92, with "contribution to science" (only 4 percent of the total -- all females -- checked this) considered most important by only a very small proportion of the total. The only other interesting difference between the tables is the sharp drop-off between present reality and future contemplations in the desire for leadership opportunities as the most important reason for choosing a career. The drop is explained by a reduction among the male proportion of the sample checking this as important. Prestige opportunities for females has also dropped precipitously (from Q. 92 to Q. 94) as the most important reason.

95/212 The results of this question (not unexpectedly since it was very similar to Q. 38) show that the majority of the sample (52 percent) considered the possibility of a career in public health or some other health field once they learned they had been rejected by medical school but before they had completed their studies. In Q. 38, 65 percent of the respondents indicated that they were fairly to very committed to a health occupation which they would wish to pursue if they couldn't enter medical school. However, this interest in a health career, when translated into behavior, was either thwarted or waned, since only 29 percent of the sample majored in a health field in graduate school (Q. 47) and only 37 percent listed their most recent job as being in a health field.

However, this switch in interest from medicine to a health career in general is just that, a switch, since during college and presumably before they were rejected by medical school, only 29 percent of the sample (Q. 85) admitted to seriously considering other health occupations as possible careers. The latent interest may have existed, but was released only by medical school rejection; or

alternatively, there may have been very little interest in a health occupation other than medicine during college but, once faced with the rejection, another occupation in the same general area (one for which they wouldn't have to be totally retrained or that would not "waste" their premed courses) suddenly became more appealing. There was no difference between males and females in the proportions acknowledging consideration of other health occupations after rejection by medical school.

96/213 Where there was a difference by sex, however, was in the specific health area considered by the rejectees. The proportions of males and females in each of the six areas is so disparate that it is meaningless to analyze the "total" percentage at all. Thus, while males considered four separate areas in almost equal proportions, (the biological sciences, dentistry, pharmacy and "other" [see table p. 213]) the females overridingly considered a career in medical technology (63 percent), with the second greatest proportion -- but still far below their first choice -- choosing nursing (16 percent). Such was the disparity between

male and female alternative health career choices that no females considered dentistry and pharmacy (as compared with 12 males), and only 2 males considered medical technology and nursing (as compared to 15 females). Clearly there are obvious generic distinctions within the health field between "male" and "female" occupations. While it was appropriate for these particular women to apply to medical school and to desire to enter the medical profession, it was seemingly inappropriate for them to want to enter other health professions such as dentistry, pharmacy, optometry, podiatry, etc. It may also be that entering these professions is not seen as inappropriate so much as it is seen as undesirable or unappealing. One must then ask why these occupations, which have as much or more prestige (and undoubtedly a higher income) than medical technician or nursing, and also meet some of the other needs cited in Q. 93 as very important by the majority of females, were nonetheless considered undesirable. The answer probably rests not so much in terms of barriers to women aspirants erected at the present time by these professions (since they weren't being

asked to list those fields for which they applied and from which they were turned away), but rather in view of obstacles erected in the past which women have learned to accept, the uselessness of considering a possible career in one of these male-dominated fields.

There are few possible explanations for the career-consideration split between these male and female rejectees except factors related to the socialization process. If one attempts to explain the differences in Table 213 by arguing the jobs female rejectees aspired to required less training and therefore would place them in an earning capacity earlier than those to which the males aspired, one must then ask why females needed to forego extensive graduate training so much earlier than males, especially in light of the fact that a) by applying to medical school they had set themselves on the longest graduate training path possible; and b) they could always fall back on the socially-sanctioned norm that females could expect to be supported by their husbands and thus didn't need to pay much attention to the time they took in graduate training or the income they forewent because of it.

While equal numbers of males and females had considered jobs in health fields after their rejection, proportionately more females than males took such jobs and more males than females went directly on to graduate school. Therefore, it is not surprising that far more males than females, when considering a health field other than medicine, considered one of the professions while the females looked at laboratory technicians' jobs. Besides the differences in occupations considered, the other striking difference is in the wider range of different health career areas that the males considered, with four very different choices attracting equal proportions, compared to the single-minded career direction of the females toward medical technology. Even nursing, a traditional female occupation, received little consideration. There are several possible explanations for nursing's low response.

As q. 18 indicates the overriding single reason that both males and females give for originally wanting to become physicians was an interest in science, with humanitarian ideals, such as an interest in people or an opportunity to be helpful to others, strongly sup-

ported but not the most important reason. Ninety-five percent of the sample in Q. 17 indicated an interest in science as fairly to very important, with equal proportions of males and females composing this percentage. While again, altruistic sentiments were strongly supported as important, science was found to be so considered by even a larger percentage of the whole. This may explain in part why a science-oriented career such as medical technology would draw more women than a more humanitarian one such as nursing.

Also, nurses must work under the direct supervision of physicians, and their activities and status are well known to the lay public. It may therefore be that, for some female rejectees, the opportunity to work in a more arcane health area not under direct physician control, such as medical technology, presented a most desirable alternative to nursing.

97/214 However, while 52 percent of these unsuccessful applicants said they seriously considered the possibility of a career in some other area of public health or health in general, and most could name the specific

area which they thought about, only 72 percent went on to attempt to obtain necessary training in this area. Predictably, a larger proportion of these were male (almost 2/3) than were female. Nearly 80 percent of those males who considered another health occupation set out to get the necessary training, a fact in accordance with the males' more single-minded and immediate pursuit of some career, whether in medicine or another area.

98/215 Of those who attempted to get such training, by far the largest proportion did so by attending graduate school (69 percent). Again, the proportion of males was significantly higher than the proportion of females. While other avenues pursued (mostly the Army or a job either within or outside the new field considered) attracted a few rejectees in each case, the numbers become too small for analysis.

99/216 While the numbers in this table, as in the previous one, are really too small to analyze, it is interesting that by combining the 5 (all females) who stated that they did not attempt to obtain the necessary training

because they acquired sufficient skills in college, with the 4 (2 males, 2 females) who said they had discovered that they had obtained the necessary training as undergraduates, what emerges is that nearly 10 percent of this total sample of unsuccessful medical school applicants felt they had been sufficiently well-trained in college to prepare them to switch career aspirations from physician to some other occupation. This may reflect either the solid college educations received by a small but interesting subsample, or a dramatic lowering of occupational aspirations of that same subsample, or both.

There is another group of rejectees answering this question: the combination of those who said they became disillusioned when seeking further training; those who felt it was too late to retrain for another career; those who were not interested enough to seek new training; and those who felt it was an "M.D. or nothing". These individuals together make up 8 percent of the total sample, and would be an interesting group to follow up as perhaps college-trained potential dropouts, a condition attributable to both systemic re-

jection and discrimination as well as individual loss of faith and self-confidence.

100/217 While 52 percent considered the possibility of an alternative career in public health or other health occupation, only 41 percent of these rejectees said that such a course of action had been recommended to them by someone else.

101/218 While many in academia might perceive themselves as part of a total system responsible not only for providing liberal arts or scientific preparation but also necessary career aid and advice, only 32 percent of those who received advice as to how best to use their premedical preparation got this help from a professor or guidance counselor. Only 12 percent of the total sample were advised to seek a career in public health or other health occupation by their college faculty, or by administrative personnel. This may be one of the more important facts to emerge from the analysis. The majority of those receiving advice in this direction obtained it from a friend their own age. Peers and relatives accounted for 2/3's of the sample who re-

ceived a push in the direction of utilizing the scientific training they had received by undertaking a career in a health-related occupation.

102/219 This table seems to follow Table 213 (Q. 96). Those areas which friends and relatives suggested as possible alternative careers appropriate for males and females are about the same that the rejectees thought of on their own, with the same proportional sex breakdown. Again, it is not helpful to examine the career advice in the totals column since the advice given to the males and females was so disparate. As in Q. 96, those areas advised for males who were rejected by medical school, in rank order from larger to smaller percentages, were: "other" (7 occupations, a different one suggested to each unsuccessful applicant; optometry, pharmacy, hospital administration, epidemiology, medical illustrator, and two unspecified); biological sciences; podiatry; and dentistry. For females, lab technician and nursing were overwhelmingly advised, with one recommendation for medical social work. The only occupation which was recommended to a

member of each sex was physical therapy. Thus there is reinforced, in the undergraduate's mind, the implicit distinction between "male" and "female" health-related occupations.

The occupations suggested to males require, on the average, far more training than do those suggested to the females; these jobs yield higher incomes and guarantee more professional status. Though the females are undoubtedly receiving some benefits by lowering their career sights (e.g., less pressure for achievement and success, earlier entrance into the labor market, etc.), these findings suggest the need for college faculties and employment counselors to re-evaluate their position vis-à-vis the role of advisor, especially when confronted with so malleable and potentially valuable a population as this highly skilled manpower resource.

103/220 Most premeds who did receive some advice did nothing about it. On the other hand, a sizable minority of those advised (38 percent) applied to graduate school, possibly to begin the process of realizing

the recommendation made or even the specific health career recommended. Of those who went to work instead (13 percent), all but one were females, and all but one got a job not in the suggested area. Apparently even when advice is given there are problems, either with the individual and his career goals, with the advice and the explicitness with which it lays out the means and goals and is followed up, or with the occupational structure which is undoubtedly more rigid and less easily changeable than the individual or the recommendations.

104/221 While 52 percent of the sample considered the possibility of a career in some area of public health or other health area after their rejection by medical school and before their graduation, 71 percent of the sample reported being <u>aware</u> of career possibilities in health, with more females aware of these possibilities than were males. Thus for nearly one third of the females, it was not ignorance of career possibilities in health which kept them from entering such occupations, but something else, such as a dislike for health (as

opposed to science) occupations per se, a lack of skills, an insecurity about abilities, or lack of firm guidance by role models or significant others. The same is true for 9 percent of the males -- that is, they had knowledge or at least awareness about career possibilities in health, but did not consider such possibilities for any one or a combination of reasons. The other 29 percent of the sample professed to having no awareness at all of career possibilities in health, outside medicine!

105/222 While only about one-third of these rejectees were in health fields (at the time of this survey), (Q. 87) more than a majority of those who were aware of such health career possibilities professed to being interested or even very interested in them at the time of their rejection. Only a small percentage of those aware of other health occupations (21 percent) reported disinterest in any career involving health except that of physician.

106/223-244 Question 106 is the first part of an index measuring rejectees' knowledge, attitudes, and behavior toward

a wide range of health occupations other than that of physician. Specifically, Q. 106 measures knowledge possessed about such occupations, either during or immediately after graduation; Q. 107 measures the degree of interest in such occupations at that time; Q. 109 measures the degree of motivation to seek graduate training in such occupations immediately upon graduation; Q. 108 measures the degree of motivation to seek and undertake training in such occupations at the present time (approximately five years later); and Q. 111 is essentially a validity check on Q. 109. Questions 109 and 111 probe depth of motivation and interest by dichotomizing the necessary training (and therefore degree of commitment) into masters and doctorate level work.

Although the latent index of commitment to these occupations takes the logical order outlined above (knowledge, interest, motivation past and present), similarities in formating make it more logical to analyze Qs.106, 107 and 108 together, and Qs. 109 and 111 together. The first three questions are analyzed by dividing them into those jobs about which 50 percent

or more of the unsuccessful applicants responding to the questions: a) displayed "a fair amount" to "a lot of knowledge"; b) displayed a "fair amount" to "a lot of interest"; c) report enough present motivation and interest to say they would probably or definitely take whatever training was needed (tuition-free, with a living allowance) to enter these occupations.

Consistent with the sample's interest in science, the only profession about which knowledge, interest and motivation is consistently expressed by a majority of the rejectees is that of biologist. While a majority of the respondents during college claimed to have "a fair amount" to "a lot" of knowledge about other health occupations -- many of them in the hard sciences or traditional health careers such as dentistry -- the only one a majority of them said they were quite interested in during their college days was that of biologist, and biology is the only one for which they express sufficient motivation at this time to leave their present jobs and begin training for.

The health occupations about which a majority of the sample possessed "a fair amount" to "a lot" of

of knowledge during their college days, in descending order (from a high of 83 percent down to the 50 percent level), are: biologist, chemist, dentist, medical or laboratory technician, biochemist, physiologist, pharmacist and veterinarian. That is, of the 22 occupations listed, only a little more than a third were known about in some detailed way by as many as 50 percent of a sample of rejected applicants to medical school. Of the other 14 occupations, none was known about to any great degree by more than a third of the rejected applicants. Understandably, the jobs known about by the smallest percentage of the sample were the "newer" specialty occupations such as medical records librarian, medical social worker, biomedical engineer and medical statistician. However, some of the other occupations not at all well known were older, more traditional ones -- usually known by only a select portion of liberal arts students who majored in them (e.g., clinical psychology); known to laymen, though probably not in a specific way, (e.g., optometry or chiropractic); or known to those enrolled in specialized graduate training programs, usually in professional

rather than in liberal arts graduate school (e.g., hospital administration, health education, nutrition or physical therapy). The rejectees undoubtedly had some vague knowledge about all these occupations, but they were asked to identify the ones about which they had some specific knowledge. Clearly most of these occupations, unlike medicine, are not learned about until well after college graduation (if then).

Concerning those occupations about which a majority of the unsuccessful applicants claimed some specific knowledge, the percentages of males and females claiming "a fair amount" to "a lot" of knowledge are fairly similar, although in general, a smaller proportion of females claimed such knowledge than did males. Only for the medical technologist and biochemist positions did proportionately more females than males claim a fair degree of specific knowledge. As seen and partially confirmed by earlier analyses, the biggest male-female difference related to knowledge about the 8 best known jobs concerns the occupation of the dentist, which 15 percent more males know about specifically, and the medical technologist, about which 15 percent more females

claimed specific knowledge.

Among those jobs about which at least 70 percent of the sample were more or less in ignorance, the only substantial differences between males and females who knew "a lot" about these jobs were relevant to the occupation of "dietition" and "medical records librarian," about which proportionately more females had "a lot" of knowledge than did males; and "chiropractor," about which more males were knowledgable (about a 12 percent difference in all three cases). Thus, it would appear that males are more likely to know about male-dominated occupations, and females about female-associated jobs, whether those occupations are well known or known barely at all to both sexes.

107/245-266 It was shown above that the majority of the rejectees lacked even a fair amount of specific knowledge about 2/3 of the careers listed in these questions. When queried further concerning the extent of interest in each of these occupations before or upon graduation from college, the only health-related occupation about which a majority of the sample said it had "a fair amount" to "a lot" of interest was biology; none of the

other 21 occupations interested (to any great degree) even 50 percent of the rejected applicants. The next six jobs, in which between 45 percent and 25 percent of the sample expressed an interest, were the same as those about which they had reported having the most knowledge in the previous question. The one exception was "dentist". Careers in medical sociology and clinical psychology were equally as interesting to these rejectees as was dentistry.

For 2/3 of these professions, males and females displayed close to the same proportion of disinterest. The proportion of males interested in the occupations of chemist, biophysicist and dentist was higher than the proportion of females interested in these professions, by a spread of percentage points ranging from 13 to 24; the proportion of females interested in medical technology, clinical psychology, medical social work and medical statistics was higher than the proportion of males interested in these professions by a percentage spread ranging from 37 percent to 11 percent.

The three most relevant facts to emerge from this question are: a) not one of the health-related occu-

pations except biology appealed to a majority of unsuccessful applicants while they were undergraduates, a partially understandable phenomenon as they had mostly been thinking about, and preparing for becoming, physicians since they were teenagers; in addition, many had majored in biology; b) males and females were fairly close in their degree of interest (or disinterest) in all these occupations except medical technology, which interested the females far more than the males, and dentistry, which did the reverse; and c) 11 percent of the rejectees -- all females -- professed "a fair amount" to "a lot" of interest in medical statistics, a career in which most undergraduates rarely receive any training, and about which most undergraduates are relatively unaware.

108/267-289 Consistent with earlier analyses, biology emerges as the only health-related career for which, given tuition and a living allowance, most rejected medical school applicants are highly motivated enough about to "probably" or "definitely" leave their present jobs. There are seven other occupations about which between 26 percent and 37 percent of the sample acknowledge this

level of interest. In descending order of motivation, these are: physiologist; clinical psychologist; biochemist; veterinarian; medical sociologist; chemist; and dentist. In terms of the latent continuum of interest or commitment to health occupations other than medicine, the two which have gained most over time are those of clinical psychologist and medical sociologist -- both requiring extensive, doctoral level graduate training and both "soft" or "social" sciences as compared to such "hard" sciences as biology, physiology, biochemistry, and chemistry, or applied sciences such as veterinary medicine or dentistry. Again, it should be recalled that only as much as 1/3 of the total sample of rejectees are so motivated.

Relative to the "soft" sciences, 20 percent to 22 percent more females than males would be motivated to leave their present jobs for these fields, perhaps because there is a much bigger discrepancy for females between the jobs they presently hold (in status, income, utilization of their training and abilities) and medical sociology or clinical psychology.

Nearly two thirds of the occupations listed have no

attraction for nearly 80 percent of the rejectees. Those occupations of least attractiveness, in decreasing order of affinity are: optometrist; audiologist; chiropractor; medical records librarian; and dietition. No male would "definitely" consider leaving whatever his present job was to train as an audiologist, and no female would do likewise to become a chiropractor. No one would leave to become a medical records librarian, and only one female would either "definitely" or "probably" consider training for a new career as a dietition.

Thus, in viewing these 22 occupations in rank order along dimensions of knowledge, interest and career motivation, biology and the other hard sciences emerge at the top, while some of the lesser-known or lower-status occupations, such as audiologist, optometrist, chiropractor, are lowest on all three dimensions.

Further, in almost every case (with the exceptions or veterinarian and dentist), the proportion of rejected applicants saying they would "probably" undertake training in another career is greater than the proprotion saying they would "definitely" take such training. Those who are motivated to become dentists and veterinarians

are mostly highly motivated to be such -- they would "definitely" do so if they had the financial wherewithal In general, the sample as a whole is not motivated to leave their present jobs for others in the health field; or, if motivated, it is more as a possible consideration than a strong desire.

There were several cases of disparity between males and females in degree of motivation to leave the present job for training in a health-related occupation. For the fields of clinical psychology and medical sociology, there were 20 percent and 22 percent differences respectively, favoring higher motivation on the part of females to leave their present jobs for these professions. For dentistry, 23 percent more males than females said they were either probably or definitely willing to leave to take training; and for medical technology and medical social work, more females than males (14 percent and 12 percent, respectively) were willing to consider new training. Noting that the following statements are limited in that they apply to only a small subset of the entire sample, it may be said that female rejectees seem less satisfied with their present careers than

do male rejectees, and are more likely to consider training for new careers than are males. Moreover, while the percentage of female rejectees who became medical technicians is already very high (See Q. 86 and 87), more than a quarter of this sample of females also indicate that they would leave their present job to become medical technicians. This figure is only half the percentage of those who would leave their present jobs to become biologists or clinical psychologists; but, in this context, it is still a fairly sizable proportion willing to train for a little known, low prestige career.

Twice as many females as males say they are sufficiently highly motivated to become medical technologists as to definitely or probably take some training in that area at the present time. On the other hand, over twice as many males, proportionately, as females say they are this motivated to begin training at the present time for dentistry. While these two careers may not offer as strong a lure as do biology and other hard sciences, or as strong an appeal as they did for this sample immediately after their rejection by medical

schools (Q. 96), nonetheless they are apparently still attractive alternatives to a sizable minority of these rejectees. (It must be remembered that those who are presently in this career or in medical school must be subtracted from the total which can be called highly motivated in this particular career direction).

There may appear to be a discrepancy between: a) finding (Q. 95) that 52 percent of the sample acknowledged considering the possibility of a career in some area of public health or other health-related field after first learning that their applications were not accepted and before they had completed their undergraduate studies; and b) the fact (Q. 107) that a majority of the sample acknowledged, among 22 health occupations listed, an interest only in biology before or upon graduation from college. There are several possible explanations for this: first, the latter question eliminated all those who subsequently went on to medical or dental school -- over 10 percent of the sample; second, the trauma of rejection by medical school may have caused many to consider another health occupation in order not to "waste" their training; third,

considering a possible career in such fields is not the equivalent of being fairly or very interested in them, or highly motivated enough (after several years have passed) to consider entering them. However, 36 individuals (Q. 97) were sufficiently motivated at the time of rejection to attempt to obtain the necessary training for another health field.

A larger proportion of the sample acknowledged considering a possible health career than acknowledged being interested in one, and a larger proportion were interested enough in such careers to attempt to seek training in them than <u>acknowledged</u> being interested in them. Many interpretations of these discrepancies are possible; the only comment offered here is that attitudes differ from behavior, and different levels of commitment are clearly being tapped by these different questions.

109/290-305 In agreement with earlier questions (Q. 107 and 108), only the hard sciences were, at the time of graduation, attractive enough to a majority of those responding to this question to have motivated them to undertake the necessary graduate training (if they had been provided tuition and a living allowance). None of the other

seven areas, on either the masters or doctoral level, appealed that strongly to a majority of the rejectees answering the question.

Also, the ordering of these professions (ranked by percentage of all rejectees who would have sought an advanced degree in them) was the same for the masters and the doctoral groups, with one exception. A masters in health care systems and delivery appealed to more of the respondents than did masters in four other areas; however, on the doctorate level, this field slipped quite a bit, with only biostatistics beneath it as the least desirable career for which to train. At the doctoral level, health care delivery was replaced by hospital administration. The ranking, in descending order of interest and with the percentage of those indicating willingness at the time of graduation, to train for the masters in that field was: hard sciences (56 percent), behavioral sciences (34 percent), mental health (32 percent), health care systems and delivery (30 percent), international health (26 percent) maternal and child health, population dynamics (22 percent), hospital administration (22 percent), and biostatistics

(15 percent). For the doctorate the ranking was: hard sciences (57 percent), behavioral sciences (33 percent), mental health (25 percent), hospital administration (21 percent), international health (21 percent), maternal and child health (18 percent), health care systems and delivery (17 percent), and biostatistics (9 percent).

It is interesting that, not only is the ranking of the different fields remarkably similar on the two graduate levels, but the percentages declaring an interest in such graduate training are quite similar as well. In every case but one there was no more than a 7 percentage-point difference between those saying they would have trained at the masters level and those choosing the doctorate level (the higher percentage favoring the masters, probably because the training is shorter by at least 2 years). The one exception was in medical care (health care systems and delivery), where almost twice as great a proportion said they'd have been interested in the masters degree than were interested in the doctorate.

The ranking of occupations on what may be con-

sidered a continuum of desirability as career possibilities follows fairly closely the same order for male as for female rejectees on both the masters and doctoral levels, with one exception for each sex on both levels. For males, on the masters level, the three most desirable fields are the "hard" sciences, the behavioral sciences, and hospital administration. This is the same ordering for males as appears on the doctoral level. For females, "hard" sciences, behavioral sciences and mental health are the most desirable occupations on both levels. The remaining occupations, when rank ordered, are similar for males and females, except that for females, on both masters and doctoral levels, mental hygiene is considered a far more desirable field than is hospital administration; and for males on both degree levels, hospital administration is considered more important than mental hygiene, although mental hygiene is also considered by males to be more important than several of the other fields. Thus, at both degree levels, males and females are in agreement about the desirability of the "hard" and behavioral sciences, but disagree about the relative

desirability of hospital administration and mental hygiene.

At the masters level, five occupations attracted a greater proportion of female than of male rejected applicants at the time of graduation; ranked by percentage point spread (shown in parentheses), these occupations are: mental hygiene (15); "hard" sciences (12); behavioral sciences (6); international health (6); and health care systems and delivery (3). Males were proportionately more interested in: hospital administration (20); maternal and child health (11); and biostatistics (1).

On the doctoral level, only two occupations attracted a greater proportion of females than of males: mental hygiene (7); and the "hard" sciences (1). Proportionately more male than female unsuccessful applicants were motivated to seek training at the time of graduation in the following occupations: hospital administration (18); biostatistics (11); maternal and child health (7); behavioral sciences (6); health care systems (5); and international health (2). On both degree levels, females remain more interested in mental hygiene and

"hard" sciences, and males more interested in hospital administration, biostatistics and maternal and child health - population dynamics. Further, females are more interested than males in getting a masters rather than a doctorate, and are also more interested in a wider variety of masters-level areas. However, males are more interested in obtaining a doctorate in every area but mental hygiene.

While there are clearly "male" and "female" preferences for health careers (at least for unsuccessful applicants to medical school) which remain consistent on both doctoral and masters levels, the same areas that females would prefer on the masters level (maternal and child health, behavioral sciences, medical care and international health) are preferred more by males on the doctoral level. What emerges is that, in several areas, a small but significant minority of both sexes say they would have been motivated to have tried for an advanced degree at the time of graduation. This applies to both sexes equally in the "hard" and behavioral sciences, to males in hospital administration, and to females in mental hygiene.

111/306-321 This question is identical to Q. 109, but is directed to the present career commitment of the rejectee; that is, five years after rejection by medical school, when most rejectees are employed or several years into a career, what is the proportion of the sample still attracted to various health fields? Perhaps the most interesting point made by these two sets of tables (doctorate and masters) is that no area included here would now tempt a majority of these rejectees to leave their present work, even if they were provided with tuition and a living allowance while they trained.

Moreover, except for the doctoral program in the "hard" sciences (which remains in first place as the most enticing area to the greatest proportion [49 percent say they would now go into the "hard" sciences in health at the doctorate level, 39 percent say they would enter such a masters program]), the masters program in each of the other seven health areas attracts a relatively greater proportion of the sample (although still a minority). However, the difference between proportions on these two levels for any area is very small.

In terms of extent of attractiveness (if not the

proportions willing to switch), the ranking of these health careers remains very similar on both the masters and doctoral level to what it was just after college graduation. The only minor changes from the rank ordering presented in the first paragraph of Q. 109's analysis that, on the masters level, "health care systems and delivery" has dropped in the proportion interested enough to take an advanced degree, on the doctoral level, "hospital administration" had dropped and "international health" has become more interesting than several of the other areas.

When analyzed according to percentages, rather than by ranking, several other facts emerge. Again, as in Q. 109, the percentage indicating it is now interested in graduate training in these fields is quite similar on both graduate levels. Except for the "hard" sciences and biostatistics, there is no more than an 8 percentage-point difference between those saying they would now train at the masters level and those saying they would train on a doctoral level. The "hard" sciences attract a greater proportion of "possibly interested" on the doctoral level, biostatistics a greater proportion on the masters level. It would appear that, when rejectees

consider giving up their present careers to go back to school, they see very little difference between two and four years of additional training, though the masters programs in every area but the "hard" sciences has a slight percentage edge. Perhaps it is more widely accepted that if one is going to do meaningful work in the "hard" sciences, a Ph.D. degree is worth the extra years involved.

A comparison between motivation five years ago and present motivation shows that it has lessened across the board. In every case, on both degree levels, the percentage saying they are motivated sufficiently by the area, the tuition and the living allowance to give up their present career is lower than it was immediately upon graduation. As indicated in the first part of the analysis for this question, fewer medical school rejectees (very few when it is realized that each of these percentages is a minority of the sample) are willing to give up a career they have begun, or even leave "only a job", to return to school for two to four years than were willing to take such a step at the time of graduation, before they were encumbered

with other commitments. This suggests that the time to reach unsuccessful medical school applicants is immediately after they have been rejected rather than years later; indeed, looking at Q. 106-108, the time to begin recruitment is several years before graduation by making knowledge of these alternative health careers available to premed students and their advisors, so as to create sufficient interest and motivation by the time of graduation and/or rejection. This suggestion is made despite the fact that knowledge does not inevitably, and by itself, lead to interest and motivation, as Qs. 107-108 demonstrate.

Four comparisons by sex may be useful in further analyzing these data. First, and probably most striking, is that on both the masters and doctoral levels, a larger proportion of females than males (with only two exceptions) said they were presently motivated to seek training in one of the health-related areas. The exceptions were "hospital administration", in which (at both levels) proportionately more males than females indicated they were motivated to train; and "health care systems and delivery", for which the males, but

only on the doctoral level, were again more motivated to undertake a new career course. In fact, a majority of the females interviewed (53 percent) declared themselves presently motivated enough to go into the "hard" sciences in health. The same three areas chosen by males ("hard" sciences, behavioral sciences, and hospital administration), and the first two and mental hygiene chosen by females as most desirable at the time of graduation, were also chosen as most desirable at the present time.

The three areas in which males are more interested in getting a doctorate than a masters degree are: "hard" sciences, behavioral sciences, and medical care. For females, however, only a doctorate in the "hard" sciences is more attractive than a masters; in every other field, they desire a masters more. Again it would seem that there is a realization (whether or not it reflects objective conditions in the field), that a masters degree in the hard sciences is not a particularly "useful" degree. Males are in fair agreement by degree levels as to ranking of the desirability of these 8 fields, and are completely in agreement about the three

most desirable: "hard" sciences, behavioral sciences and hospital administration. Females are slightly less in agreement on the ranking of these areas on the two degree levels, but they too are consistent for the top three fields ("hard" sciences, behavioral sciences, and mental hygiene).

As has become clear in the several types of analyses presented above (and will be reinforced by an examination of the differences between males and females in percentage point spread), proportionately more female than male rejectees are, at the present time, motivated to go into all but two of these areas. This statement applies to both the doctoral and masters level of training. The exceptions are "hospital administration", in which 12 percent more males are presently motivated to obtain either a masters or a doctorate, and "health care systems and delivery", in which 9 percent more males are motivated, but only to get a doctorate. At the masters level, 10 percent more females than males would like to begin training in this area. Ranked by percentage point spread between sexes, the occupations in which females are proportionately more interested in getting a masters (followed by the per-

centage point difference are: behavioral sciences (23); maternal and child health (21); mental hygiene (14); hard sciences (13); medical care (10); biostatistics (10); and international health (6). On the doctorate level the ranking for females (since males were ahead of females in only hospital administration and medical care) is: mental hygiene (12); maternal and child health (9); hard sciences (8); behavioral sciences (7); international health (6); and biostatistics (3).

In summary, the analysis to this point indicates that: a) there is no single health-related field for which a majority of this sample of unsuccessful applicants, or a majority of the male rejectees would now train; b) the "hard" sciences retain their place as the most desirable alternative occupation to medicine; c) more female rejectees, proportionately, than males are motivated to retrain in almost any health area, but more likely to want to do so on the masters than on the doctoral level; d) there are certain fields which are regarded as the domain of one sex or the other; or at least hold much more interest for one sex than the other

(e.g., "hospital administration" for the males, "mental hygiene" and "maternal and child health" for the females); and e) there are certain fields that predominate, no matter the sex, the degree level or the point in time (e.g., "hard" sciences and behavioral sciences).

While both males and females have retained their predominant interest in the "hard" sciences since their college days, a comparison of the tables from Qs. 111 and 109 reveals changes in several of the other areas. The proportion of males presently motivated to leave their jobs and seek additional or different training in any one of the 8 fields is lower than it was five years previously. Females, however, were not only more motivated to return to school than were males in all but two areas, but were even more motivated in four of these eight areas than they were in the past. On the masters level, these fields were "behavioral sciences", "biostatistics" and "maternal and child health"; on the doctoral level they were "behavioral sciences", "international health" and "maternal and child health". The percentage increase, however, for

all three fields (on the doctoral level) was very small, as it was for behavioral sciences and biostatistics on the masters level.

The only substantial increase in the entire comparison was in the proportion of females motivated to get a masters in maternal and child health/population dynamics. At graduation it was the least desirable area in which to get a masters; five years later it is chosen as one of the most desirable (although still for only a minority of the sample). The increase was from 3 percent in the mid-sixties to 32 percent at the time of the survey.

One interpretation of the finding that females are more motivated to return to school than are males, and more motivated at present than at graduation, is that females not only have lower-income, lower-status jobs than do males, but also have had less training of any kind, as well as a greater likelihood (two-thirds of the sample being married and one-half of these having children) of not having experienced any kind of employment at all. It may therefore by that these highly-trained and educated women would find the op-

portunity to obtain additional training and have a career, or a better job, a more attractive prospect than would males, who have had more training, have higher status jobs and presumably are all working or will soon begin work upon completion of school. The relative deprivation for the females is greater than that for the males, and it is evidenced by the greater proportion of females than males who want to work in almost every one of the health-related areas. The fact that females are much more interested than they were five years ago in maternal and child health may be related to their past training, and to their present roles as wives and mothers.

Questions 109 and 111 can also be compared with regard to graduate levels. On the masters level the ranking in desirability of these health fields has remained largely the same over the years, except for a decrease in the rating of "medical care" relative to other fields for both sexes, and an increase in the desirability of "maternal and child health" training for females. On the doctoral level the rankings remain even more consistent over the five year period,

except that "medical care" for males has increased slightly in importance when compared with other fields.

However, when looking at the percentage differences between time of graduation and the present for the total sample, another view emerges. As already indicated, every area on both the doctoral and masters level dropped in the proportion now motivated to train for it; the percentage point drop ranged from 17 points for the masters in "hard" sciences to only one point for maternal and child health/population dynamics. On the masters level, besides the "hard" sciences, "health care systems and delivery" lost the largest percentage of those now attracted, and "biostatistics", "behavioral sciences" and "maternal and child health" lost the least. No area lost as large a proportion of those interested on the doctoral level as on the masters level. However the "hard" sciences, "mental hygiene", "hospital administration" and "biostatistics" evidenced the largest differences. Though on the doctoral level, "international health" was the field which remained almost as attractive as it had been, "maternal and child health" and "behavioral sciences"

also retained most of their adherents, as they had none on the masters level.

When the data are examined by sex, similar outcomes are evident. For males, "hard" sciences and "medical care" attract the largest proportion on the masters level. While "hard" sciences on the doctoral level did not lose as large a proportion of this sample of rejectees as it did on the masters level, it, along with every other area except "international health" and "biostatitistics", dropped by at least 10 percent. For females (except for the "hard" sciences on the masters level, which fared as poorly as it did for males), the drop in interest during these five years was neither as large as it was for males in any area, nor as consistent. As noted earlier, several areas gained slightly in interest, and "maternal and child health" gained 29 percent in adherents. The proportions now motivated to enter "behavioral sciences" increased on both levels, and one or two other fields did also, though not for both the masters and the doctorate.

To summarize, males are less motivated at this time to give up their jobs and train in any of these areas

than females; females are more willing to give up either their jobs or housework, and are more willing now than they were at the time of graduation to enter several of these areas (although no area now attracts a majority of males, and only the "hard" sciences attracts a majority of the females). Except for the "hard" sciences, the masters program is presently somewhat more interesting to the rejectees than the doctoral program, as it was at the time of graduation; however, males are less interested in training at either level than are females, and are equally interested in getting a masters or a doctorate if they were to re-train. While the proportion of females now motivated to get a doctorate has decreased, the proportion motivated to get a masters has increased. These findings suggest that both sexes, at the time of graduation, would be more receptive to entering some of these health fields than they would be five years later; that at that time, males were equally as willing to enter a masters or doctoral program, although females were more attracted to a masters degree; that five years into a job or career, whether related to health or

not, renders the males significantly less willing to retrain (possibly because a larger proportion of them have obtained masters or doctorates than have the females); but that females remain motivated over time to go back to school to get a masters, are almost as motivated to get a doctorate as they had been in the past, but overwhelmingly prefer the masters when the two degree programs are compared. Unsuccessful female applicants to medical schools would appear to be an important potential source of health manpower at any point in the five years following rejection, and males seem more likely than females to get a doctorate <u>if</u> they are reached immediately upon rejection.

112/322 The majority of this sample, despite their rejection by medical school, feels they are more successful in life now than are their friends from college. This self-appraisal is partially confirmed by the fact that only a minority of these rejected applicants now feel motivated to switch careers. Only 7 percent now report feeling less successful than their college friends. Slightly less than a majority of the females feel they are <u>more</u> successful than their college friends,

but a larger proportion of females than males consider themselves as successful as their friends. Thus, while both sexes have a very high opinion of their self-worth (and it is likely that these respondents interpreted this question about success in terms of their occupations, since previous and later questions all concern this area rather than marriage, etc.), a slightly larger proportion of males than females, report being either more or less successful in life than their college friends. While females may not have succeeded occupationally to the same degree as did males, they feel they did as well or better than their college friends.

113/323-324 Not surprisingly, for the largest proportion of rejectees, the closest friend during college wanted to become a physician, although the ultimate career plans of the second closest college friend were in fields completely outside either medicine or health. However, a majority of these "closest friends" did not want to be physicians. While "physician" as a category led the others, more than a quarter of the best friends were in other fields altogether, and almost a quarter

wanted to go into the "hard" sciences. While males had a proportionately greater number of best friends who planned to become the best friend of a majority of the females was as likely to plan on a career in the "hard" sciences as in medicine. Other health careers were the goal of only a very small proportion of the rejectees' closest friends (11 percent of the first friend, 4 percent of the second).

The above breakdown by rank ordering ("physician"; "hard" sciences and other fields close together as second; "other health careers" a poor third) is: a) quite similar to question 68I (144-147) (the major area during college of one or more closest friends); b) in accord with the high priority given to "hard" science and the interest in humanities shown by the sample itself, as measured by Q. 68 (in that question, an interest in the "hard" sciences was more or less inclusive of those wanting to become physicians, since the question dealt with major fields in college and not with specific career plans); c) in accord with the fact that the "hard" sciences, for this sample, is the most desirable area to enter once rejected by

medical school; and d) in agreement with the small percentage of rejected applicants who seriously considered another health occupation as an alternative to medicine during college (Q. 85).

An interest in health careers other than medicine apparently develops, at least for those who originally want to become physicians as well as for their friends, after college and not before or during it. Also, the similarity of interests, cohesiveness of peer groups, and the importance of peer relationships (e.g., Q. 101 shows that the majority of the advice given for these rejectees, once they learned of their medical school rejection, was given by friends, rather than college advisors or faculty) is apparent when this table is considered along with several of the others.

114/325-326 Somewhat surprisingly, the ultimate degree plans of these unsuccessful applicants' best friends were more likely to be a bachelor's degree or an R.N., rather than an M.D. This finding becomes more understandable when the totals are considered separately for males and females. The largest proportion of the males' closest friends were, in fact, planning to

get an M.D. or a D.D.S., while an even larger proportion than this of the females' best friends planned to get a bachelor's or R.N.. Thus, 55 percent of the "best friends" working for a bachelor's were friends of the females (and probably women themselves), while 76 percent of those planning to get an M.D. or a dental degree were "best friends" of the males (and probably males themselves).

While the degree plans of the males' closest friends were most likely to be first the M.D. and second, a B.A., almost as large a proportion of their friends aimed for a Ph.D. (or its equivalent) in a non-health field (26 percent for the B.A.-R.N., 20 percent for the Ph.D.). However, not only were the degree plans of the females' closest friends more likely to be a B.A. or R.N. than an M.D., but the second largest proportion of their friends aimed not for an M.D. or a Ph.D., but for a masters degree. During college, as well as after, it would seem that females and their friends had lower educational aspiration levels than did males. It would also seem that this sample's choice of friends was much more catholic than might be supposed and not ex-

clusively focused on similarity of interests.

The ranking was not quite the same for the plans of the respondent's second closest friend. With this group, neither the M.D. nor the B.A. attracted the largest proportion of the total, but instead, a Ph.D. outside the health fields was the degree most frequently sought. While this was also the case for the second closest friend of the males (38 percent planned to seek a doctorate in a non-health area), the next largest proportion were those planning on an M.D., with a much smaller number aiming for a B.A. degree. The largest proportion of the females' second closest friends were planning on a masters degree, though this was closely followed (as it was for males) by those planning to get an M.D. However, the third most likely category were seeking only a B.A. degree. These findings are in accordance with more general notions concerning differences between male-female aspiration levels, socialization patterns, and past discrimination at the higher levels of many occupations.

As is also apparent from Q. 113, those planning to get a Ph.D. in health fields other than medicine

were not only the smallest proportion of the sample for both kinds of friends, but a very small absolute percentage as well. Undergraduates may simply lack the knowledge, and therefore the motivation, to want to pursue doctoral level training in health fields, although it obviously is not a matter of time commitment, for this entire sample, and more than a quarter of their two best friends, wanted to go to medical school. It is more likely a matter of lack of knowledge, inadequate advice, and a hazy image of careers in health occupations other than medicine.

115/327-343 Within the context of the limitations of self-rating scales, it can be said that this sample of unsuccessful medical school applicants has a very high image of itself on a majority of the dimensions presented in this question. At least three-quarters of the rejected applicants felt they were best described by the more positive side of the continuum for more than half of these polarities.* Thus, in descending

*This analysis excludes the rural-urban continuum since it is not a trait; more will be said about this later.

rank order of the proportion describing themselves positively, these are the traits which best characterize a majority of this sample of medical school rejectees: "useful" (91 percent); "high control over one's fate" (88 percent); "good" (88 percent); "scientific" (86 percent), "active" (85 percent), "important" (82 percent); "happy" (80 percent); a "leader" (77 percent); "sociable" (75 percent); "flexible" (71 percent); "superior" (66 percent); and "humanistic" (62 percent). Even the remaining four characteristics, which a majority of the rejectees did not feel accurately described themselves ("altruistic", "powerful", "lucky" and "in-group"), were selected by more than 40 percent in each case, with the remaining proportion in each of these four cases choosing "in between" rather than the opposite characteristic. Thus, not only is the self-esteem of most of this sample quite high, but their self-image is a broad and comprehensive one as well. In no case did a negative or undesirable trait receive endorsement as self-descriptive by more than 10 percent of the respondents. No males saw themselves as "bad", "unimportant", or described the events of their life

as "due to luck" rather than to their own control.

While no females described themselves as "bad", and agreed with males in rating the characteristic "useful" as the one most self-applicable, males and females did differ in several other respects. In most cases, a larger proportion of males thought they possessed the positive characteristics listed in this question. Often the difference was negligible, but sometimes the proportions differed by as much as nine to eighteen percentage points. This was true of the characteristics: "important", "scientific", "in-group", "powerful", and "superior". The last two, especially, were characteristics chosen more often by males than by females.

The four traits which a larger proportion of females than males selected as self-descriptive, were: "humanistic"; "altruistic" (concerned with others); "lucky"; and "sociable". Differential sex role socialization, as well as reaction formation or over-compensation, probably account for the finding that proportionately more women than men see themselves as humanistic, altruistic and sociable, while 16 percent to 18 percent

more males than females felt they were "powerful" and "superior". Finally, "having control over their own fate" and "being important" were characteristics ranked as relatively more important by males, and four of the negative characteristics ("follower", "unsociable", "out-group" and "powerless") were thought to be self-descriptive by between 10 percent and 15 percent more females than males. In addition, the polar opposites of the latter two ("in-group" and "powerful") were endorsed by 9 percent and 16 percent more males, respectively.

One additional comment should be made: while only 2 percent more males than females described themselves as "urban", 13 percent more females than males described themselves as "rural". Whether this psycho-geographical difference is meaningful is not ascertainable from the level of analysis performed here. (Also see Q. 128)

117/344 The majority of these rejectees are 27 or 28 years old. Thirteen percent are older than 28, with 2 males and a female in their late thirties or early forties. At each age group except the youngest (25-26), a larger

proportion of the sample is male. While only 26 percent of the males are 25-26, 46 percent of the females are this age category. Overall, the female rejectees tend to be younger than the males.

118-120/ 345-347 Two-thirds of the respondents were once married, and only 2 of these (3 percent) are no longer married. Surprisingly, a larger proportion of the females were never married (39 percent) than males (33 percent), and a larger proportion of females got married later rather than earlier. More than two thirds of the sample were married during the years 1966-1967, after their rejection by medical school. Surprisingly few (given the rising statistics for undergraduate marriages), were married before 1965; of the eight who were, three were middle aged and so were probably married well before they applied to medical school.

121-123/ 348-350 Over half of those who are married have children, more than a third of them having more than one child. A slightly larger proportion of females have children than their male counterparts and wives, although a larger proportion of the males in this category have more than one child than do the females. Although

females may have married somewhat later than males, more of them had children by the time of this survey than did the males. Almost all the children were born after 1967, several years after undergraduate school. Only three of those with children, all males, had their children before 1967, and it must be remembered that two males and one female were about 40 years old.

124/351 While the rank ordering of the proportions in this sample of medical school rejectees who are Protestant, Catholic and Jewish is the same as the ordering nationally, the size of the proportions are somewhat different. Herberg (24) gives the U.S. self-identification religious breakdown as: Protestant, 66 percent; Catholic, 26 percent; and Jewish, 3.5 percent. The figures for this sample are: Protestant, 54 percent; Catholic, 22 percent; and Jewish, 18 percent.

126,127/ 352-354 At the time they first applied to medical school, 90 percent of this sample had both parents still alive (Table p. 352), with 95 percent of these still married (Table p. 355). In 80 percent of those cases where both

parents were not alive, it was the father who was deceased (Table 354). These tables indicate that this sample of rejectees came from very, even remarkably, stable families which were relatively safe from both death or divorce. While the numbers and differences are really too small to be meaningfully interpreted, it is interesting to note that the males in the sample had experienced the death of a parent more often than had the females, and that proportionately more males than females had deceased fathers.

128/355-357 While most of the unsuccessful applicants were born in a city of over 100,000 people, and most now live in a community this large, a majority of the sample did not spend their teens in so large a community. More of them spent their teens in acity of from 10,000 to 50,000 than were either born there or now live there. The percentage of the sample born in these smaller cities was even lower than that for those born in rural areas or small towns, though this, in turn, was less than half the proportion born in a large city.

A comparison between sexes reveals that while the same small proportion of males as females was born in

the suburbs, a much smaller proportion of females than males was born in very large cities, and a much larger percentage of females were born in towns of less than 10,000 persons. These data are consistent with those presented in Q. 115 for the rural-urban self-description continuum, in which 13 percent more females than males described themselves as rural. This is almost exactly the percentage difference for rural birth place between males and females revealed by Q. 128. While almost half as many females as males spent their teens in a very large city, more than twice as many females as males spent their teens in small cities. While the regional percentage did not change at all for males from the time of birth to their teens, small cities gained teenage female respondents and rural areas lost them.

The most striking difference between the sexes, however, is revealed by a comparison of where they presently live. While exactly the same percentage of females as males (58 percent) now live in large metropolitan areas, twice as many female as male rejectees now live in rural areas, and one-fourth as many females

as males now live in suburbs. Females are presently more likely than males to live in small cities.

131/359 While the largest proportion of this sample of rejected applicants had fathers with only a high school education, almost as large a percentage (27 percent compared to 31 percent) had fathers who either hold an advanced degree or have undertaken some graduate study. Most striking of all, 42 percent of the fathers in this category had an M.D. degree. It would seem unusual that more than half of the sample had fathers who had some undergraduate or graduate training, but while it may be surprising for a national random sample of 27 year old college graduates, it may not be so unusual for medical school applicants, rejected or successful. Johnson (9) found systematic (131/358) differences between successful and unsuccessful medical school applicants when comparing them for fathers' occupation as a physician. Six and three-tenths percent of the rejectees had medical fathers compared to 21 percent of current medical students. But that study does not throw light on the more general question of fathers with "graduate education" and premed major

sons; there may be no difference between successful and unsuccessful applicants if the variable is other than "physician father".

While approximately equal proportions of males and females had fathers with no more than a high school education, proportionately more males had fathers with only a B.A., and more females had fathers with graduate degrees or graduate work to their credit. This may have some effect on the fact that females are presently more motivated than males to obtain the graduate training they expected to get in medical school.

131/359 Not unexpectedly, a greater proportion of mothers than fathers of these rejectees had only a high school education rather than college or graduate training. However, a fair proportion (27 percent) of these mothers had some college or a B.A., and the proportion going beyond college (21 percent) was not very much smaller than the proportion of fathers who did so.

While about the same proportion of females as males had mothers with no more than a high school education, more females, proportionately, had mothers with only a B.A. or college work, and more males had mothers with graduate degrees or who had completed some graduate

work. The biggest difference from the previous table was that 12 percent more of the females' mothers had a college education than did their fathers, but 13 percent more of the females' fathers had been to graduate school.

132,134/360 Since the majority of the rejectees were 21 or 22 years old when they first applied to medical school, it is not surprising that almost all their surviving fathers were working (91 percent of the sample). A slightly larger proportion of the fathers of the males were not working, but this is in accord with the fact that of the fathers who had died, all but one were fathers of male rejectees. Only one father was reported as retired, again in accord with the fact that three of these respondents were about 40 years old.

133/361 Both the fathers' and mothers' occupations were ranked and grouped according to the seven-interval Hollingshead occupational prestige scale. Tables 361 and 363 combine the last two categories into one, and thus the scale is collapsed into a six-interval table. Consistent with the high proportion of fathers

who had college or graduate education, the largest proportion of the rejected applicants had fathers who held jobs which could be classified in the first (highest) category of the Hollingshead scale. This category includes: executives of large businesses; proprietors of large concerns; and major professionals (including physicians). The fathers of nearly half the sample, in fact, had occupations which, when ranked according to the Hollingshead prestige rating system, placed them in the top two positions of the scale. While the occupations distribute themselves along a more or less bimodal curve, the second (or lower status) peak is only half as high as the first.

Each of the first three scale positions had a higher proportion of fathers of males than of females, while a higher proportion of females' fathers fell into the last three categories. Indeed, most of the males' fathers were in occupations classified as the most, or almost the most, prestigious. By comparison, not even a majority of the females' fathers had occupations which could be ranked among the top <u>three</u> most prestigious categories. While the females had fathers

with only slightly less college or post-college education (3 percent difference) the occupational prestige spread between the fathers of males and of females was much wider. While having fathers with a great deal of college education may account, in part, for the females' educational aspirations, having fathers who held lower status (and probably lower-income) jobs may account for the fact that a much smaller proportion of females reported that their parents had offered to finance their medical education in whole or in part (Q. 21).

136-138/ 362

Over a third (37 percent) of these unsuccessful applicants' mothers were working when their children applied to medical school. Although nationally the proportion of married women with children who work <u>has</u> risen rapidly in the last 10 or 15 years, it wasn't significantly different in 1966 from the present 46 percent figure. The higher the social class, the less likely the wife is to be employed, although this too is changing. As we have seen in looking at the results of the Hollingshead scale for father's occupation, which is one measure of social class, this sample of rejectees is more representative of children from

families in higher social classes than it is for those from lower-to-middle status levels.

It is surprising to note that over twice as many of the females' mothers worked as did the mothers of the males. Perhaps male and female applicants to medical school, successful or unsuccessful, come from socially and demographically different groups.

Most of the rejectees' mothers who were not working at the time of their children's application to medical school were "housewives" (92 percent). Only a very small proportion of the sample, males and females alike, reported their mothers as not working because of illness or death.

137/363 The largest proportion of mothers held jobs which could be classified as falling either into Hollingshead category 2 or category 4; however, almost as large a proportion were classified in the lowest two groups, "semi- or unskilled employee or machine operator". Unlike the fathers, a majority of these working mothers did not hold jobs classifiable among the top two occupational categories; in fact a majority of these mothers did not hold jobs ranked in the top three categories.

There was a substantial discrepancy between the kinds of jobs held by mothers of males as compared with those held by mothers of females. There were only 2 respondents, one male and one female, who had working mothers in the "major professionals" category. However, in the second most prestigious occupational grouping, there was a 25 percent spread between males and females; i.e., mothers of males were two and a half times more likely to be "business managers", "lesser professionals" or "proprietors of medium concerns" than were the mothers of females. The discrepancy is even greater in the third category, with over six times as many of the mothers of males holding jobs which fall into this category. In addition, over twice as many of the females' mothers are in "clerical or sales workers" positions, and over four times as many mothers of females are "machine operators" or "unskilled".

The fact that so much larger a proportion of the females' mothers are employed (as opposed to being housewives) probably has a bearing on whether their daughters also aspire to a career; it is also probably true that the status level at which these mothers work

the proportion of males with fathers in this income bracket is twice as large as that for females. However, an even greater proportion of the rejectees (39 percent) have fathers who earned under $9,000 at the time they applied to medical school. (Again there was a significant difference between the males and females, with 55 percent of the females falling into this category as compared with only 29 percent of the males.) As was the case with occupational prestige, there is a bimodal curve for fathers' income when the total sample is examined, but this time the second peak is almost as high as the first. It would appear that motivation to undertake medical training is not necessarily correlated with father's ability to pay for it. Father's occupation or profession, as well as level of education, seems to have a closer relationship to the occupational aspirations of the child than does income, although secondary analysis would be necessary to test this conclusion, as well as to examine the strength of each factor as a predictor variable, both of children's attitudes and motivations toward careers as well as of their final level of occupational achievement.

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